



OBSTETRICS & GYNAECOLOGY

Placenta and Early Pregnancy – Questions

1. **Implantation occurs how many days after ovulation:**
 - A. 4 days
 - B. 5 days
 - C. 6 days
 - D. 7 days
 2. **Trophoblast is formed by**
 - A. Chorion
 - B. Amnion
 - C. Yolk sac
 - D. None of the above
 3. **Umbilical cord has**
 - A. 2 arteries and 2 veins
 - B. 2 arteries and 1 umbilical vein
 - C. 1 artery and 2 veins
 - D. 2 arteries and left umbilical vein
 4. **Interstitial implantation complete by what time:**
 - A. 11 days
 - B. 12 days
 - C. 13 days
 - D. 14 days
 5. **Corpus luteum retrogresses & undergoes :**
 - A. Fibrosis
 - B. Fatty degeneration
 - C. Hyalinisation
 - D. All
 6. **After reaching the uterine cavity, a fertilized ovum takes how long to implant itself**
 - A. 24 hrs
 - B. 48 hrs
 - C. 96 hrs
 - D. 144 hrs.
 7. **Percentage of HbF at birth is:**
 - A. 20%
 - B. 60%
 - C. 80%
 - D. 90%
 8. **At term weight of placenta is**
 - A. 500 gm
 - B. 1000 gm
 - C. 1200 gm
 - D. 1500 gm
 9. **The most essential thing for implantation is**
 - A. Blastocyst
 - B. Endometrium
 - C. Both
 - D. None
 10. **Placental circulation is established by how many days after ovulation:**
 - A. 27
 - B. 13
 - C. 30
 - D. 21
 11. **Corpus luteum is maximally developed at:**
 - A. 4-6 days after menses
 - B. 1-2 days after menses
 - C. 1-2 days before menses
 - D. 4-6 days before menses
 12. **Meconium is colored green due to:**
 - A. Hemolysed blood
 - B. Bile pigment
 - C. Food particles
 - D. Lanugo
 13. **Rule of Hasse is used to determine**
 - A. The age of fetus
 - B. Height of an adult
 - C. Race of a person
 - D. Identification
 14. **A placenta that has a chorionic plate smaller than the basal plate is:**
 - A. A membranaceous placenta
 - B. A succenturiate placenta
 - C. A circumvallate placenta-
 - D. A fenestrated placenta
 15. **Most definitive sign of pregnancy is:**
 - A. Balottment
 - B. FHS
 - C. Quickening
 - D. Enlarged uterus
 16. **Millard's rule of 10 include A/C:**
 - A. 10 lb
 - B. 10 weeks
 - C. 10 gm%
 - D. 10 months
 17. **Which drug does not cross placenta:**
 - A. Warfarin
 - B. Heparin
 - C. Morphine
 - D. Naloxone
 18. **All can cross placenta except:**
 - A. Insulin
 - B. Acinocoumarin
 - C. Dilantin
 - D. Diazepam
 19. **Multiparous pregnancy predisposes to all except:**
 - A. pPH
 - B. Pre-eclampsia
 - C. Anemia
 - D. Malpresentation
 20. **Elemental iron and folic acid content of iron & folic acid adult tablets supplied under the National Programme for Anaemia Prophylaxis are:**
 - A. 60mg of elemental iron and 500 micrograms of folic acid.
 - B. 100 mg of elemental iron and 500 micrograms of folic acid.
 - C. 120 mg of elemental iron and 750 micrograms of folic acid.
 - D. 200 mg of elemental iron and 1000 micrograms of folic acid
 21. **A 37 weeks pregnant woman attends an antenatal clinic at a Primary Health Centre. She has not had any antenatal care till now. The best approach regarding tetanus immunization to this case would be to:**
 - A. Give a dose to Tetanus Toxoid (TT) and explain to her that is will not protect the new born and she should take the second dose after four weeks even if she delivers in the meantime -
 - B. Do not waste the TT vaccine as it would anyhow be of no use in this pregnancy
 - C. Given one dose of TT and explain that it will not be useful for this pregnancy
 - D. Give her anti-tetanus Immuno-globulin along with the TT vaccine

1. c	2. d	3. d	4. a	5. d	6. b	7. c	8. a	9. b	10. b	11. d	12. b	13. a	14. c
15. b	16. d	17. b	18. a	19. b	20. a	21. a							

22. Daily dietary calcium required in 3rd trimester of pregnancy:
A. 50 mg
B. 100 mg
C. 500 mg
D. 1000 mg
23. Wrong about changes in 2nd half of pregnancy:
A. uterine size
B. Ureter dilatation
C. Renal pelvis dilatation
D. Increase serum albumin
24. Ureteric dilatation in pregnancy is due to:
A. Uterus pressing on right ureter
B. Progesterone
C. Estrogen
D. hCG
25. Implantation bleeding:
A. Hartman sign
B. Implantation sign
C. Houver's sign
D. Cavalier's sign
26. Fertilised ovum reaches uterine cavity by:
A. 4 to 5 days after implantation
B. 6 to 7 days after implantation
C. 7 to 9 days after implantation
D. 2 to 3 days after implantation
27. After how many days of ovulation embryo implantation occurs?
A. 3-5 days
B. 7-9 days
C. 10-12 days
D. 13-15 days
28. Primary oocyte:
A. Is formed after single meiotic division
B. Maximum in number in 5 month of the fetus
C. Is in metaphase arrest
D. Also called as Blastocyst
29. Zona hatching occurs:
A. 4 days after fertilisation
B. 5 days after fertilisation
C. 6 days after fertilisation
D. 8 days after fertilisation
30. Time taken for spermatogenesis is:
A. 50-60 days
B. 60-70 days
C. 70-80 days
D. 80-90 days
31. Time taken for the capacitation of sperms is:
A. 2-4 hours
B. 4-6 hours
C. 6-8 hours
D. 8-10 hours
32. Germ cell appear in yolk sac:
A. 3 weeks
B. 6 weeks
C. 9 weeks
D. 5 weeks
33. Formation of a follicle is completed by:
A. 6 weeks
B. 9 weeks
C. 14 weeks
D. 24 weeks
34. True statement with regards to resumption of Meiosis I is:
A. It is not hormone dependent
B. Resumed due to LH
C. Resumed due to FSH
D. Resumed due to GnRH
35. Size of resting follicle:
A. 0.2mm
B. 0.02mm
C. 2mm
D. 20mm
36. Sperms attain maturity and motility in:
A. Cranial end of epididymis
B. Caudal end of epididymis
C. Vas deferens
D. Ejaculatory duct
37. Main source of prolactin in amniotic fluid is:
A. Decidua
B. Syncytiotrophoblast
C. Cytotrophoblast
D. Yolk sac of fetus
38. Primary oocyte is formed after:
A. 1st meiotic division
B. 2nd meiotic division
C. Mitotic division
D. None of above
39. 1 primary oocyte forms _____ number of ova:
A. 1
B. 2
C. 3
D. 4
40. Fetal kidney start producing urine by:
A. 3 months
B. 4 months
C. 5 months
D. 6 months
41. All of the following can be administered in acute hypertension during labour except:
A. IV labetalol
B. IV nifedipine
C. IV hydralazine
D. IV diazoxide
42. Fetal stage starts at:
A. 9 weeks
B. 3 weeks
C. 6 weeks
D. 12 weeks
43. The foetal circulation is first intact and functional, separated from maternal circulation at the age of:
A. 8 days
B. 12 days
C. 17 days
D. 21 days
44. Fetal sex can be detected by USG at:
A. 14 weeks
B. 16 weeks
C. 18 weeks
D. 20 weeks
45. Oxygenated blood from the placenta reaches the fetal heart in utero via:
A. Umbilical arteries
B. Umbilical vein
C. Ductus venosus
D. Ductus arteriosus
46. Weight of placenta and fetus are equal at:
A. 14 weeks
B. 15 weeks
C. 17 weeks
D. 21 weeks

22. d	24. b	25. a	26. a	27. b	28. b	29. b	30. c	31. c	32. a	33. d	34. b	35. b	36. b
37. a	38. c	39. a	40. a	41. d	42. a	43. d	44. a	45. b	46. c				

**What is placental cotyledon?**

47. A. All branches from one stem villi
B. Area supplied by one spiral artery
C. Quarter of placenta
D. Area drained by one terminal villi

Blood flow in intervillous space at term:

48. A. 150 mL
B. 250 mL
C. 300 mL
D. 500 mL

Which prostaglandin is present predominantly in fetal membranes:

49. A. PGE1
B. PGE2
C. PGF-2
D. PGI2

Normal cord pH is:

50. A. 7.1
B. 7.2
C. 6.1
D. 6.2

Percentage of water in liquor amnia:

51. A. 42%
B. 64%
C. 76%
D. 99%

Schwangerschaft protein is the other name of:

52. A. hCG
B. Papp-1
C. Pregnancy specific beta 1 glycoprotein
D. Actvin

The foetal blood is separated from syncytiotrophoblast with all except:

53. A. Fetal blood capillary membrane
B. Mesenchyme of intervillous blood space
C. Cytotrophoblast
D. Decidua parietalis

The uterine blood flow at term:

54. A. 50 ml/min
B. 100-150 ml/min
C. 350-375 ml/min
D. 500-750 ml/min

The finding of a single umbilical artery on examination of the umbilical cord after delivery is:

- A. Insignificant
B. Occurs in 10% of newborns
C. An indicator of considerably increased incidence of major malformation of the fetus.
D. Equally common in newborn of diabetic and no diabetic mothers.

All are true regarding Duncan's placental separation except:

- A. Peripheral separation
B. Maternal surface presents at vulva
C. Blood b/w placenta and uterus
D. Most common method of separation

The folds of Hoboken are found in:

- A. The amnion
B. The placenta
C. Uterus
D. Umbilical cord

Fetal blood loss in abnormal cord insertion is seen in:

- A. Vasa previa
B. Decidua basalis
C. Battle dore placenta
D. Succenturiate placenta

Human placenta is best described as:

- A. Discoidal
B. Hmochorial
C. Deciduate
D. All of the above

Placenta succenturiata may have all except:

- A. Preterm delivery
B. PPH
C. Missing lobe
D. Sepsis and subinvolution

Decidual space is obliterated by:

- A. 10th week
B. 12th week
C. 14 th week
D. 16 th week

Following hormones secreted by placenta exclusively: (PGI)

- A. HCG
B. Estrogen
C. HPL
D. PRL

47. a	48. a
61. d	62. a,c

49. b	50. b	51. d	52. c	53. d	54. d	55. c	56. d	57. d	58. a	59. d	60. a
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Placenta and Early Pregnancy — Explanations

1. C. 6 days

Implantation occurs in the endometrium of the anterior or posterior wall of the body near the fundus on the 6th day which corresponds to the 20th day of a regular menstrual cycle. Implantation occurs through four stages e.g. apposition, adhesion, penetration and invasion.

(Ref Dutta textbook of obstetrics)

2. D. None of the above

The **cells of the blastocyst** differentiate into an outer trophoctoderm and an inner cell mass. Just before implantation, the trophoctoderm is further differentiated into an inner mononuclear cellular layer called cytotrophoblast or Langhans' layer and an outer layer of multinucleated syncytium called syncytiotrophoblast.

Hence we can say that trophoblast is derived from cells of blastocyst and not from any of the above options

3. D. 2 arteries and left umbilical vein

Initially, there are four vessels — two arteries and two veins. The arteries are derived from the internal iliac arteries of the fetus and carry the venous blood from the fetus to the placenta. Of the two umbilical veins, **the right one disappears** by the 4th month, leaving behind **one vein** which carries oxygenated blood from the placenta to the fetus. Presence of a single umbilical artery is often associated with fetal congenital abnormalities.

(Ref Dutta textbook of obstetrics)

4. A. 11 days

Implantation begins at 6th day occurring by process of apposition adhesion penetration and invasion. Further penetration is stopped probably by the maternal immunological factor and the original point of entry is sealed by fibrin clot and later by epithelium. The process is completed by 10th or 11th day which corresponds to D 24-25 from LMP

5. D. All

6. B. 48 hrs

The conceptus enters uterine cavity on 4th day post fertilization and implantation begins on 8th day

7. C. 80%

During the first half, the hemoglobin is of fetal type (α -2, γ -2) but from

- 24 weeks onwards, adult type of hemoglobin (α -2, β -2) appears and
- At term about 75-80% of the total hemoglobin is of fetal type (HbF).
- Between 5 and 8 weeks, the embryo manufactures some additional hemoglobin: Hb Gower 1 (ξ - and ϵ -chains), Hb Gower 2 (α - and ϵ -chains) and Hb Portland (ξ - and γ -chains).

- Between 6-12 months after birth, the fetal hemoglobin is completely replaced by adult haemoglobin

(Ref Dutta textbook of obstetrics)

8.

A. 500 gm

The placenta, at term, is almost a circular disk with a diameter of 15-20 cm and thickness of about 3 cm at its center. It thins off toward the edge. It feels spongy and weighs about 500 gm, the proportion to the weight of the baby being roughly 1 : 6 at term and occupies about 30% of the uterine wall. It presents two surfaces, fetal and maternal, and a peripheral margin

9.

B. Endometrium

Marked changes occur in endometrium during implantation. The increased structural and secretory activity of the endometrium that is brought about in response to progesterone following implantation is known as decidual reaction.

Changes occur in all the components of the endometrium but most marked at the implantation site and first commence around maternal blood vessels. The fibrous connective tissues of the stroma become changed into epithelioid cells called decidual cells. The glands show marked dilatation and increased tortuosity with its lining epithelium showing evidences of active cell proliferation with increased secretory activity. There are areas of small interstitial hemorrhage and leukocytic infiltration specially at the implantation site

10.

B. 13

When the interstitial implantation is completed on 11th day, the blastocyst is surrounded on all sides by lacunar spaces around cords of syncytial cells, called trabeculae. From the trabeculae develops the stem villi on 13th day which connect the chorionic plate with the basal plate. Primary, secondary and tertiary villi are successively developed from the stem villi. Arterio-capillary-venous system in the mesenchymal core of each villus is completed on 21st day. This ultimately makes connection with the intraembryonic vascular system through the body stalk (Ref Dutta textbook of obstetrics)

11.

D. 4-6 days before menses

Corpus luteum is maximally developed at 4-6 days before menses and starts to regress.

12.

B. Bile pigment

Composition of the meconium: It is chiefly composed of the waste products of the hepatic secretion. It contains lanugo, hairs and epithelial cells from the fetal skin which are swallowed with the liquor amnii. Mucus, exfoliated intestinal epithelium and intestinal juices are added to the content. The greenish black color is due to the bile pigments, specially biliverdin. (Ref Dutta textbook of obstetrics)

13.

A. The age of fetus

The length is more reliable criterion than the weight to calculate the age of the fetus

Calculation of the length is done by rule of Hasse that is : The crown heel (CH) measurement of the first 5



months is calculated by squaring the number of the lunar months to which the pregnancy belongs. In the second half, the same is calculated by multiplying the lunar months by 5. The length is expressed in centimeters.

(Ref Dutta textbook of obstetrics)

14. C. A circumvallate placenta

CIRCUMVALLATE PLACENTA -The fetal surface is divided into a central depressed zone surrounded by a thickened white ring which is usually complete. The placenta of such type is due to the smaller chorionic plate than the basal plate. The ring is situated at varying distances from the margin of the placenta.

The ring is composed of a double fold of amnion and chorion with degenerated decidua (vera) and fibrin in between

(2) Vessels radiate from the cord insertion as far as the ring and then disappear from view (3) The peripheral zone outside the ring is thicker and the edge is elevated and rounded

PLACENTA MEMBRANECEA: The placenta is unduly large and thin. The placenta not only develops from the chorion frondosum but also from the chorion laeve so that the whole of the ovum is practically covered by the placenta

SUCCENTURIATE PLACENTA- One (usual) or more small lobes of placenta, size of a cotyledon, may be placed at varying distances from the main placental margin. A leash of vessels connecting the main to the small lobe traverse through the membranes.

FENESTRATED PLACENTA - central portion of discoidal placenta is missing sometimes there is hole in placenta defect mostly involves only villous tissue with the chorionic plate

15.

B. FHS

Most definitive sign of pregnancy is FHS

16.

D. 10 months

Millard criteria (Rule of 10) is a set of rules, which is to be fulfilled for undertaking elective surgery for children, and mostly used for reference in cleft lip surgery. The criteria includes these prerequisites:

10 POUNDS (lb) or more of body weight (or easily converted to 5 kilograms), which usually happens in sync with 10 WEEKS of age (or easily converted to 3 months of age)

10 GRAMS or more of Hemoglobin level in every 100 millilitres of blood (Hb level > 10 grams/dL)

NOT more than 10 THOUSANDS of leukocytes or white blood cells count in every microlitre of blood (WBC < 10,000/uL)

17.

B. Heparin

Heparin and insulin do not cross the placental barrier as they are large organic ions. Rest of the drugs can cross placental barrier by simple diffusion.

The factors responsible for transfer are—(i) Molecular weight (molecular weight > 1,000 Da do not cross the placenta), (ii) Protein binding, (iii) Concentration of free drug, (iv) Lipid solubility, (v) Degree of ionization and tissue pH, (vi) Uteroplacental blood flow and

(vii) Placental surface area. The rate of drug transfer across the placenta is increased in late pregnancy

18. A. Insulin

19. B. Pre-eclampsia

Multiparous pregnancy increases the risk of post-partum haemorrhage, anaemia and malpresentation while pre-eclampsia is more common in primigravida.

20. A. 60mg of elemental iron and 500 micrograms of folic acid.

Under national programme for anemia prophylaxis dose of iron calcium are 60 mg of elemental iron and 500 micrograms of folic acid.

supplementary iron therapy is needed for all pregnant mothers from 4 month onwards continued throughout preg and to be continued for 180 day post partum

Folic acid supplementation (0.4 mg a day) starting 4 weeks prior to conception up to 12 weeks of pregnancy is advised. This can reduce the incidence of neural tube defects

21. A. Give a dose to Tetanus Toxoid (TT) and explain to her that is will not protect the new born and she should take the second dose after four weeks even if she delivers in the meantime

Immunization against tetanus not only protects the mother but also the neonates. In unprotected women, 0.5 mL tetanus toxoid is given intramuscularly at 6 weeks interval for 2 such, the first one to be given between 16 and 24 weeks. Women who are immunized in the past, a booster dose of 0.5 mL IM is given in the last trimester.

22. D. 1000 mg

Dietry requirement during pregnancy :-

- 1000mg in pregnant state
- 1500 mg during lactation
- 500 mg during non pregnant state

The pregnancy diet ideally should be light, nutritious, easily digestible and rich in protein, minerals and vitamins. The diet should consist in addition to the principal food at least half liter, if not, 1 liter of milk (1 liter of milk contains about 1 g of calcium), plenty of green vegetables and fruits.

(Ref Dutta textbook of obstetrics)

23. D. Increase serum albumin

- There is marked fall in albumin levels in pregnancy from 4.3 g% to 3 g%—a fall of about 30% and only slight rise of globulin (mainly α globulin), the normal albumin:globulin ratio of 1.7:1 is diminished to 1:1. This is due to hemodilution, results in diminished viscosity of the blood and reduced colloid osmotic tension

- Increase urine size in pregnancy is due to hypertrophy and hyperplasia of uterus under hormonal influence
- Uretic dilatation is due to progesterone effect
- There is dilatation of renal pelvis in pregnancy

24. B. Progesterone

Ureters become atonic due to high progesterone level. Dilatation of the ureter above the pelvic brim

with stasis is marked on the right side especially in primigravidae. It is due to dextrorotation of the uterus pressing the right ureter against the pelvic brim and also due to pressure by the right ovarian vein which crosses the right ureter at right angle. The stasis is marked between 20–24 weeks.

Where as estrogen causes marked hypertrophy of the muscle and the sheath of the ureter especially the pelvic part.

(Ref Dutta textbook of obstetrics)

25. **A. Hartman sign**

26. **A. 4 to 5 days after implantation**

The morula after spending about 3 days in the uterine tube enters the uterine cavity through the narrow uterine ostium (1 mm) on the 4th day in the 16–64 cell stage.

(Ref: Dc Dutta textbook of obstetrics)

27. **B. 7–9 days**

Implantation occurs in the endometrium of the anterior or posterior wall of the body near the fundus on the **6th day** which corresponds to the 20th day of a regular menstrual cycle. Implantation occurs through four stages e.g. apposition, adhesion, penetration and invasion.

28. **B. Maximum in number in 5 month of the fetus**

The number of oogonia reaches its maximum at 20th week (5th month), numbering about 7 million. While the majority of the oogonia continue to divide, some enter into the prophase of the first meiotic division and are called primary oocytes.

Option A—primary oocyte is formed after single mitotic division and not meiotic

Option C is in prophase arrest (diplotene < dictyotene – which is name of arrested phase between prophase and metaphase)

Option D BLASTOCYST is formed after fertilization at the time when implantation begins at day 5th

29. **B. 5 days after fertilisation.**

Zona hatching occurs just before implantation, i.e. D19 of the cycle

30. **C. 70–80 days.**

Spermatogenesis on average takes 70–80 days (75 days)

31. **C. 6–8 hours**

Capacitation—The term capacitation refers to the changes which occurs in the sperm before it fertilizes the ova. It is the functional maturation of the spermatozoa.

- Average time required = 6–8 hours
- Capacitation occurs in female reproductive tract
- It begins in the cervix
- Majority part occurs in fallopian tube

32. **A. 3 weeks**

33. **D. 24 weeks**

34. **B. Resumed due to LH**

Resumption of Meiosis I is hormone dependent. It resumes with Lh surge, i.e. Meiosis I is completed 32–36 hrs before ovulation.

Meiosis II is not hormone-dependent

35. **B. 0.02mm**

36. **B. Caudal end of epididymis**

Sperm attain maturity and motility in the. Caudal end of epididymis

37. **A. Decidua**

The decidua is the main source of prolactin that is present in amniotic fluid. Decidual prolactin is not to be confused with human placental lactogen (hPL), which produced only by syncytiotrophoblast

38. **C. Mitotic division**

39. **A. 1.**

Primary oocyte is formed after mitotic division and from 1 primary oocyte only 1 ovum is formed.

40. **A. 3 months**

(Ref: Dc Dutta textbook of obstetrics)

By the end of the first trimester (that is 3 months), the nephrons become active and secrete urine. Near term, the urine production rises to 650 mL/day.

41. **D. IV diazoxide**

42. **A. 9 weeks**

Ovular period or germinal period—which lasts for first 2 weeks following ovulation.

Embryonic period—begins at 3rd week following ovulation and extends up to 10 weeks of gestation (8 weeks post conception).

Fetal period—begins after 8th week following conception and ends in delivery.

Hence answer here is 9 weeks

43. **D. 21 days**

(Ref: Dc Dutta textbook of obstetrics)

With the establishment of the fetal circulation, nutrition is obtained by active and passive transfer from the 3rd week onwards. (day 21)

44. **A. 14 weeks**

45. **B. Umbilical vein**

The umbilical vein carrying the oxygenated blood (80% saturated) from the placenta to foetal heart

Option A—umbilical arteries—The deoxygenated blood leaves the body by way of **two umbilical arteries** to reach the placenta where it is oxygenated and gets ready for recirculation

Option C—The greater portion of the oxygenated blood, mixed with some portal venous blood, short circuits the liver through the ductus venosus to enter the inferior vena cava (IVC) and thence to right atrium of the heart

Option D—Ductus arteriosus—connecting part between pulmonary artery and arch of aorta, since the resistance in the pulmonary arteries during fetal life is very high, the main portion of the blood

passes directly through the ductus arteriosus into the descending aorta bypassing the lungs where it mixes with the blood from the proximal aorta.

C. 17 weeks

In the first trimester placental growth is more rapid than that of the fetus. But by approximately 17 post menstrual weeks, placental and fetal weights are approximately equal.
(Ref. Williams)

A. All branches from one stem villi

Each of the truncal or main stem villi and their ramifications constitutes a placental lobule or cotyledon. Each lobule is supplied with a single branch of the chorionic artery. And each lobule has a single vein so that lobules constitute functional units of placental architecture.
(Ref. Williams)

48. A. 150 mL

A mature placenta has 500mL blood out of which 150mL is in the intervillous space and 350 mL in villi system (Ref. Dutta Obs)

49. B. PGE2

50. B. 7.2

51. D. 99%

Water in amniotic fluid is 98-99%

52. C. Pregnancy

Specific beta 1 glycoprotein
Schwangerschaft protein:

- It is the other name for pregnancy specific B1 glycoprotein
- Produced by trophoblast
- Can be detected 18 days after ovulation
- Its concentration rises steadily and reaches 200mg/mL at term
- Role-measure of placental function for fertility control

53. D. Decidua parietalis

Foetal blood is present in villi which has got the following structures from outside inward: (1) Outer syncytiotrophoblast; (2) cytotrophoblast; (3) basement membrane; (4) Central stroma containing fetal capillaries, primitive mesenchymal cells, connective tissue and a few phagocytic (Hofbauer) cells hence we can say that foetal blood is separated from syncytioblast by following structures written above that includes option A B and C but not decidua parietalis

54. D. 500-750 ml/min

At term utrine blood flow is 500-750 ml/min
From pregnancy—from uteroplacental blood flow has been measured to increase progressively during the midtrimester to approximately 450 mL/min in the 36 weeks (Flo, 2014; Wilson, 2007).

(Ref williams obstetrics)

55. C. An indicator of considerably increased incidence of major malformation of the fetus.

(Ref: Dc Dutta textbook of obstetrics)

Option A- Presence of single umbilical artery significant, it is more common in twins and in babies born of women with diabetes, epilepsy, oligohydramnios, hydramnios, pre-eclampsia and antepartum hemorrhage. It is frequently associated with congenital malformation of the fetus (20-25%). Renal and genital anomalies, Trisomy 18 are common. There is increased chance of abortion, fetal aneuploidy, prematurity, IUGR and increased perinatal mortality

Option B- Single umbilical artery is present in about 1-2% of cases, not in 10% newborns

Option D it is more common in diabetics.

56. D. Most common method of separation

Schultz method is more common method of placental separation occurs in 80% cases.

57. D. Umbilical cord

Beneath the basement membrane of umbilical artery there is a thin layer of myofibrils arranged longitudinally, oblique or transversely ordered bundles of myofibroblast are interposed at wide and irregular interval. These transverse bundles are able to trigger localised contraction rings called "folds of hoboken" the initial stage of postnatal arterial closure.

58. A. Vasa previa

In vasa previa, vessels travel within the membranes and overlie the cervical os. There, they can be torn with cervical dilatation or membrane rupture, and laceration can lead to rapid fetal exsanguination. Over the cervix, vessels can also be compressed by a presenting fetal part.

(Ref Williams obstetrics)

59. D. All

The human placenta is discoid, because of its shape; hemochorial, because of direct contact of the chorion with the maternal blood and deciduate, because some maternal tissue is shed at parturition.

60. A. Preterm delivery

If the succenturiate lobe is retained, following birth of the placenta, it may lead to: (1) Postpartum hemorrhage which may be primary or secondary (2) Subinvolution (3) Uterine sepsis (4) Polyp formation. But not preterm delivery

61. D. 16th week

Decidual space is obliterated by 16th week
Space between the decidua capsularis and the decidua vera, called the decidual space is gradually narrowed down and by 4th month (16 week), it is completely obliterated by the fusion of the decidua capsularis with the decidua vera.

At term, they become atrophied due to pressure and the two cannot be defined as a double layer. The decidua basalis, however retains its characteristic appearance till term and becomes the maternal portion of the placenta

62. A. HCG and C. HPL

OPTION A-HUMAN CHORIONIC GONADOTROPIN (hCG): hCG is a glycoprotein secreted by placenta. The alpha subunit of hCG is biochemically similar to LH, FSH and TSH whereas the beta

C- HUMAN PLACENTAL LACTOGEN (hPL): This is also known as human chorionic somatomammotropin (hCS). The hormone is synthesized by the syncytiotrophoblast of the placenta subunit is relatively unique to Hcg

Other hormones released from placenta are-

PREGNANCY-SPECIFIC b-1 GLYCOPROTEIN (PS b-1G)
Pregnancy-associated plasma protein-A (PAPP-A) is secreted by the syncytiotrophoblast

Growth factors: Inhibin, activin, insulin-like growth factor (IGF-1 and 2), transforming growth factor b (TGF-b) and epidermal growth factor (EGF) are produced by the syncytiotrophoblast cells.

While estrogen is produced from ovary as well and PRL(prolactin) is released from pituitary gland as well



Amniotic Fluid — Questions

63. Amniotic fluid is mainly produced by:

- A. Placenta
- B. Fetus
- C. Chorion
- D. Amnion

64. The pH amniotic fluid is:

- A. 6.8 to 6.9
- B. 7.1 to 7.3
- C. 7.4 to 7.6
- D. 6.7 to 6.8

65. Surfactant appears in amniotic fluid at the gestational age of:

- A. 20 weeks
- B. 32 weeks
- C. 36 weeks
- D. 28 weeks

66. Oligohydramnios is/are seen in:

- A. Renal agenesis
- B. Oesophageal atresia
- C. Exomphalos
- D. Neural tube defect

67. Oligohydramnios is/are associated with: (PGI TYPE)

- A. Neural tube defect
- B. Renal agenesis
- C. Postmature birth
- D. Tracheo-oesophageal fistula

68. Causes of polyhydramnios include: (PGI TYPE)

- A. Diabetes mellitus

- B. Preclampsia
- C. Esophageal atresia
- D. Renal agenesis

69. Indication of amnioinfusion is: (PGI TYPE)

- A. Oligohydramnios
- B. Suspected renal anomalies
- C. To facilitate labour
- D. In case of fetal distress

70. Amount of liquor is maximum at:

- a. 32-34 weeks
- b. 36-38 weeks
- c. 34-36 weeks
- d. 38-40 weeks

71. The major contribution of the amniotic fluid after 20 weeks of gestation:

- A. Ultrafiltrate and maternal plasma
- B. Fetal urine
- C. Fetal lung fluid
- D. Fetal skin

72. Amniotic fluid at 38 weeks in normal pregnancy is:

- A. 800 cc
- B. 1100 cc
- C. 1500 cc
- D. 1800 cc

63. b

64. b

65. d

66. a

67. b,c

68. a,c

69. a,b,d

70. a

71. b

72. a

Amniotic Fluid — Explanations

63. B Foetal origin

CIRCULATION: The water in the amniotic fluid is completely changed and replaced in every 3 hours as shown by the clearance of radioactive sodium injected directly into the amniotic cavity. The presence of lanugo and epithelial scales in the meconium shows that the fluid is swallowed by the fetus and some of it passes from the gut into the fetal plasma.

64. B. 7.1 to 7.3

Surfactant appear at 28 weeks in amniotic fluid, synthesis begins at 20 weeks.

65. D. 28 weeks

66. A. Renal agenesis

Causes of oligohydramnios are

Fetal conditions: (i) Fetal chromosomal or structural anomalies (ii) Renal agenesis (iii) Obstructed uropathy (iv) Spontaneous rupture of the membrane (v) Intrauterine infection (vi) Drugs: PG inhibitors, ACE inhibitors (vii) Postmaturity (viii) IUGR (ix) Amnion nodosum (failure of secretion by the cells of the amnion covering the placenta).

B. Maternal conditions: (i) Hypertensive disorders (ii) Uteroplacental insufficiency (iii) Dehydration

Option B C D eosophageal atresia

Neural tube defect like anencephaly and Spina bifida and tracheoesophageal is also associated with polyhydramnios

Ref: Dutta

67. B C (explanation refer to ques 30)

68. A and C

I. FETAL ANOMALIES: Congenital fetal malformations (structural and chromosomal) are associated with polyhydramnios in about 20% cases.

Anencephaly—Hydramnios is found in association with anencephaly in about 50% cases.

Ospina bifida—increased transudation from the meninges.

Esophageal or duodenal atresia—preventing swallowing of the liquor. However, hydramnios is associated with Facial clefts and neck masses—by interfering normal swallowing.

Aneuploidy and genetic syndromes

II. PLACENTA: Chorioangioma of the placenta

III. MULTIPLE PREGNANCY: Multiple pregnancy is about 10 times more common than its overall incidence.

IV. MATERNAL: (i) Diabetes— (ii) Cardiac or renal disease—may lead to edema of the placenta leading to increase in transudation

69. A. Oligohydramnios, B. Suspected renal anomalies and D. In case of fetal distress

Option A in oligohydramnios liquor is reduced hence amnioinfusion can be done

Option B renal anomalies are associated with oligohydramnios so amnioinfusion is considered treatment

Option D in case of foetal distress

70. A. 32-34 weeks

Amniotic fluid volume is related to gestational age.

It measures about 50 mL at 12 weeks, 400 mL at 20 weeks and reaches its peak of 1 liter at 32-34 weeks its value is 900 mL at 36 weeks Thereafter the amount diminishes, till at term it measures about 600-800 mL As the pregnancy continues post term, further reduction occurs to the extent of about 200 mL at 43 weeks.

71. B fetal urine

1st 12 weeks – major source is ultrafiltration of maternal plasma

12- 20 week – fetal skin

>20 week – fetal urine

Overall major source – foetal urine

72. A. 800cc

Great Changes in Pregnancy — Questions

- | | | | |
|-----|---|-----|--|
| 73. | The clotting factor which is not increased in pregnancy :
A. Factor 2
C. Factor 10 | 83. | Estrogen and progesterone is first two months of pregnancy are produced by:
A. Fetal ovaries
C. Placenta |
| 74. | A prosthetic valve patient switches to happen at what time during pregnancy:
A. 28 weeks
C. 36 weeks | 84. | All of the following increases at full term in pregnancy except:
A. Minute volume
C. Blood volume |
| 75. | Prolactin levels:
A. Lowest in pregnancy and increases after delivery
B. Highest during pregnancy and fall during lactation
C. Unaffected by pregnancy and lactation
D. Variable in every pregnancy | 85. | Which of the following is the least likely physiological change in pregnancy:
A. Increase in intravascular volume
B. Increase in cardiac output
C. Increase in stroke volume
D. Increase in peripheral vascular resistance |
| 76. | Intermediate cell predominance on a vaginal cytology is seen in:
A. Pregnancy
C. Postovulatory | 86. | What are maternal physiological changes in pregnancy: (PGI TYPE)
A. 'ed cardiac output
B. 'ed tidal volume
C. "ed vital capacity
D. "ed fibrinogen
E. "ed plasma protein concentration |
| 77. | What is approx fetal weight, if height of uterus is above pubic symphysis is 35cm and station of head-2?
A. 2.3 kg
C. 3.5kg | 87. | Physiological changes in pregnancy:
A. residual volume'
C. CO" |
| 78. | Appropriate treatment of women having edema in pregnancy includes:
A. Salt restriction
C. Diuretics | 88. | Which of the following cardiovascular change is abnormal in pregnancy: (PGI)
A. Enlarged cardiac silhouette
B. Increased S1 split
C. Right axis deviation on ECG
D. Early diastolic murmur |
| 79. | Chadwick sign is seen in:
A. Cervix
C. Uterus | 89. | Which cardiovascular change is physiological in last trimester of pregnancy:
A. Midsystolic murmur
B. Occasional atrial fibrillation
C. Shift of apical impulse laterally and upwards in left 4th intercostals space
D. Cardiomegaly |
| 80. | Theca lutein cyst is not seen in:
A. Twin Pregnancy
B. Molar pregnancy
C. Chronic renal failure during pregnancy
D. Hypothyroidism during pregnancy | 90. | All of the following may be observed in a normal pregnancy except:
A. Fall in serum iron concentration
B. Increase in serum iron binding capacity
C. Increase in blood viscosity
D. Decrease in blood oxygen carrying capacity |
| 81. | Weight gain in pregnancy is related to all except:
A. Ethnicity
B. Smoking
C. Socioeconomic status
D. Preconceptional weight | 91. | Which of the following is increased in pregnancy: (PGI TYPE)
A. Globulin
C. Uric acid
E. Transferrin |
| 82. | All of the following changes are seen in pregnancy except:
A. Increased stroke volume
B. Increased cardiac output
C. Increased Intravascular volume
D. Increased peripheral vascular resistance | | |

73. d	74. c	75. b	76. a	77. c	78. b
87. d	88. c,d	89. c	90. c	91. a,b,d,e	



92. HCG is secreted by:

- A. Trophoblast cells
- B. Amniotic membrane
- C. Fetal yolk sac
- D. Hypothalamus

93. False statement regarding HCG is:

- A. It is secreted by cytotrophoblast
- B. It acts on same receptor as LH
- C. It has luteotrophic action
- D. It is a glycoprotein

94. True about hCG. (PGI)

- A. Alpha subunit identical to LH, FSH and TSH
- B. Causes involution of corpus luteum
- C. Doubles in 7-10 days
- D. Max. level seen at 60-70 days of gestation
- E. Detected in serum and urine 8-9 days after ovulation.

95. Best test for estimating hCG:

- A. Radio immunoassay
- B. ELISA
- C. Radio receptor assay
- D. Bioassay

96. In normal pregnancy character of vagina is:

- A. pH Alkaline
- B. Increase number of lactobacilli
- C. Glycogen content increases
- D. Number of pathogenic bacteria increase

97. The following changes occur in urinary system in pregnancy except

- A. Increased GFR
- B. Increased RBF
- C. Hypertrophy of bladder musculature
- D. Increased activity of ureters

98. All of the following are true about regional blood flow in pregnancy except:

- A. Uterine blood flow at term is 750 ml/min
- B. Blood flow through skin decreases
- C. Renal blood flow increased by 80%
- D. Pulmonary blood flow increase

99. The role of human placental lactogen is:

- A. Stimulate milk production
- B. Fetal breast development
- C. Growth of fetus
- D. Endocrine regulation

100. Alpha and Beta subunits are not seen in:

- A. FSH
- B. HCG
- C. Prolactin
- D. Insulin

101. Intermediate cell predominance on a vaginal cytology is seen in:

- A. Pregnancy
- B. Menstruation
- C. Post ovulatory
- D. Premenstrual

102. Insulin is secreted by the fetal pancreas by:

- A. 12th Week
- B. 28th week
- C. 32nd week
- D. 38th weeks

93. a	94. a,d,e	95. a	96. b	97. d	98. b	99. d	100. c	101. a	102. a
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Physiological Changes in Pregnancy — Explanations

D. Factor 11

13. pregnancy is a hypercoagulable state, all clotting factors increase in pregnancy except factor 11 and 13. Another frequently asked question is what happens to fibrinogen levels during pregnancy—since fibrinogen is clotting factor number 1 therefore it also increases in pregnancy.

C. 36 weeks

14. **B. Highest during pregnancy and fall during lactation**

Maternal plasma levels of prolactin increase marked during the course of normal pregnancy; serum concentration levels are usually 10 fold greater at term (about 150 ng/ml) compared with non pregnant women. Paradoxically, after delivery the plasma prolactin concentration decrease even in women who are breast feeding. During early lactation, there are pulsatile bursts of prolactin secretion in response to sucking.

76. A. Pregnancy

77. C. 3.5kg

78. D. Bed Rest

- Femoral venous pressure is markedly raised in pregnancy especially in later months
- the pressure exerted by gravid uterus on the common iliac veins (more on right side due to dextrorotation of the uterus) causes pedal edema in pregnant women called as physiological edema of pregnancy
- No treatment is required for physiological edema or orthostatic edema. Its subsides on rest alone
- Diuretics should not be prescribed in case of physiological edema

79. B vagina.

During pregnancy, due to increased vascularity and hyperemia there is bluish discoloration of vagina. This is called as Chadwick sign (Jacquemier sign)

80. D. Hypothyroidism during pregnancy

81. B. Smoking

Smoking does not affect maternal weight gain during pregnancy, smoking affects fetal weight gain and is one of the causes of IUGR.

82. D. Increased peripheral vascular resistance

83. D. Corpus luteum

In the initial few weeks, the main source of estrogen and progesterone during pregnancy is corpus luteum

84. D. Cardiac output

All the four options given in the question increase during pregnancy. Even cardiac output at term is more as compared to a non-pregnant female but it is lesser than first and second trimester, mainly due to IVC compression.

85. D. Increase in peripheral vascular resistance

There is decrease in peripheral vascular resistance in pregnancy rather than increase. Systemic vascular resistance (SVR) decreases (~21%) due to smooth muscle relaxing effect of progesterone, NO, prostaglandins or ANP.

Option A: increase in intra vascular volume - It starts to increase by 6 weeks and it plateaus at 30 weeks of gestation. The rate of increase almost parallels to that of blood volume but the maximum is reached to the extent of 50%. Total plasma volume increases to the extent of 1.25 liters

Option B - CARDIAC OUTPUT - The cardiac output (CO) starts to increase from 5th week of pregnancy and reaches its peak 40-50% at about 30-34 weeks. Thereafter the CO remains static till term

The increase in CO is caused by: (1) Increased blood volume. (2) To meet the additional O₂ required due to increased metabolic activity during pregnancy.

OPTION C: increase in stroke volume is also associated with increase metabolic needs it increases by 27% in pregnancy

(Ref : Dutta textbook of obstetrics)

86. A. 'ed cardiac output , D. 'ed fibrinogen and E. 'ed plasma protein concentration

Changes in pregnancy :

Option A- CO increases by 40% max CO immediately post partum

Option B C- A state of hyperventilation occurs during pregnancy leading to increase in tidal volume and therefore respiratory minute volume by 40%. It is probably due to progesterone acting on the respiratory center and also to increase in sensitivity of the center to CO₂

Option D - : Pregnancy is a hypercoagulable state. Fibrinogen level is raised by 50% from 200-400 mg/dL in nonpregnant to 300-600 mg/dL in pregnancy

Option E- Total plasma protein increases from the normal 180 g (nonpregnant) to 230 g at term. However, due to hemodilution, the plasma protein concentration falls from 7 g% to 6 g%.

87. D. Haematocrit "

Residual volume in pregnancy decreases by 20%

B - GFR increases in pregnancy by 50% due to increase in renal plasma flow

C- CO is increased in pregnancy by 20 % (explained above)

D- The disproportionate increase in plasma and RBC volume produces a state of hemodilution (fall in hematocrit) during pregnancy

(Ref Dutta text book of obstetrics)

88. C. Right axis deviation on ECG and D. Early diastolic murmur

C- There is slight rotation of heart to left in pregnancy due to elevation of diaphragm consequent to enlarged uterus so normally left axis deviation is seen not right

D- A systolic murmur may be audible in the apical or pulmonary area. This is due to decreased blood viscosity and torsion of the great vessels, diastolic murmur is abnormal in pregnancy

Rest all changes are normally seen in pregnancy

89. **C. Shift of apical impulse laterally and upwards in left 4th intercostals space**

(Ref Dutta text book of obstetrics)

Due to elevation of the diaphragm consequent to the enlarged uterus, the heart is pushed upward and outward with slight rotation to left. Abnormal. The displacement may, at times, be responsible for palpitation. The apex beat is shifted to the 4th intercostal space about 2.5 cm outside the midclavicular line

Option A- systolic murmur is seen and not diastolic

Option B- no atrial fibrillation occur in pregnancy normally

Option D- cardiac enlargement is a radiological sign of heart disease other findings are increased pulmonary markings, enlargement of pulmonary veins

90. **C. Increase in blood viscosity**

Blood viscosity is decreased in pregnancy. The disproportionate increase in plasma and RBC volume produces a state of hemodilution (fall in hematocrit) during pregnancy.

Option A- Fall in serum iron concentration during pregnancy is due to increased demand during pregnancy to 1000mg. This is distributed in fetus and placenta 300 mg and expanded red cell mass 400 mg. There is obligatory loss of about 200 mg through normal routes.

Option B due to decrease in serum iron concentration there is increase in serum iron binding capacity

Option C due to decrease in haemoglobin concentration during pregnancy there is a decrease in blood oxygen carrying capacity

91. **A. Globulin, B. Fibrinogen, D. Leukocytes and E. Transferrin**

A-Globulin is increased in pregnancy to 30% against marked fall in albumin concentration

B-Fibrinogen level rises in pregnancy as pregnancy is a hypercoagulable state

C-No increase of uric acid levels is observed normally in pregnancy

D-Neutrophilic leucocytosis occur in pregnancy due to rise in level of oestrogen and cortisol

E-Transferrin is a protein that transports iron in during iron deficiency anemia levels of transferrin and TIBC increases and pregnancy is an iron deficient state hence levels of transferrin increases

92. **A. Trophoblast cells**

hCG is produced by the syncytiotrophoblast of the placenta and secreted into the blood of both mother and fetus.

93. **A. It is secreted by cytotrophoblast**

hCG is produced by the syncytiotrophoblast of the placenta and not cytotrophoblast

B - correct as the alpha subunit of hCG is biochemically similar to LH, FSH and TSH whereas the beta subunit is relatively unique to hCG

C- has leuteotropic action due to its alpha subunit D- hCG is a glycoprotein. Its molecular weight is 36,000- 40,000 dalton

Ref Dutta text book of obstetrics)

94. **A. Alpha subunit identical to LH, FSH and TSH, D. Max. level seen at 60-70 days of gestation and E. Detected in serum and urine 8-9 days after ovulation.**

A-The alpha subunit of hCG is biochemically similar to LH, FSH and TSH whereas the beta subunit is relatively unique to hCG

B-It acts as a stimulus for the secretion of progesterone by the corpus luteum of pregnancy. **Rescue and maintenance of corpus luteum till 6 weeks of pregnancy** is the major biological function of hCG and doesn't cause its involution

C-In the early pregnancy, **the doubling time of hCG concentrations in plasma is 1.4- 2 days**. And not 7-10 days

D-The blood and urine values **reach maximum** levels ranging from 100 IU/mL to 200 IU/mL **between 60 and 70 days of pregnancy**. The concentration falls slowly reaching a low level of 10-20 IU/ml between 100 and 130 days. Thereafter, the levels remain constant throughout pregnancy with a slight secondary peak at 32 weeks

E-By radioimmunoassay, it can be detected in the maternal serum or urine as early as **8-9 days postfertilization**. Day of ovulation is same as day of fertilization.

95. **A. Radio immunoassay**

By **radioimmunoassay**, it can be detected in the maternal serum or urine as early as 8-9 days postfertilization

(ref : DUTTA text book of obstetrics)

96. **B. Increase number of lactobacilli**

In pregnancy following changes occur in vagina

The secretion becomes copious, thin and curdy white due to marked exfoliated cells and bacteria. The pH **becomes acidic (3.5-6)** (not alkaline) due to **more conversion of glycogen into lactic acid** (hence glycogen level decreases) by the Lactobacillus acidophilus consequent on high estrogen level. The acidic pH prevents multiplication of pathogenic organisms. (hence pathogenic bacteria decreases) There is preponderance of navicular cells in cluster (small intermediate cells with elongated nuclei) and plenty of lactobacillus.

97. **D. Increased activity of uterers**

Activity is decreased rather than increased. Uterers become atonic due to high progesterone level. The stasis is marked between 20-24 weeks

Option A increased GFR. Glomerular filtration rate (GFR) is increased by 50% all throughout pregnancy.

Option B increased RBF. Renal plasma flow is increased by 50-75%, maximum by the 16 weeks and is maintained until 34 weeks



Option C hypertrophy of bladder musculature—There is marked congestion with hypertrophy of the muscles and elastic tissues of the wall. In late pregnancy, the bladder mucosa becomes edematous due to venous and lymphatic obstruction especially in primigravidae

B. Blood flow through skin decreases

Blood flow through skin increases pulmonary blood flow increases while pulmonary vascular Resistance decrease

D. Endocrine regulation

hPL antagonizes insulin action. High level of maternal insulin helps protein synthesis. hPl causes maternal lipolysis and promotes transfer of glucose and amino acids to the fetus. As a potent angiogenic hormone, it helps to develop fetal vasculature. It promotes growth and differentiation of breasts for lactation. Hence maintain endocrine regulation in body

Option A—Milk production is stimulated by prolactin hormone and not hPL

Option B — Fetal breast development is under influence of estrogen and progesterone, first stage of breast development begins at 6 weeks with a thickening called the mammary ridge or milk line

Option C Growth of foetus - Fetal growth is predominantly controlled by IGF-1, insulin and other growth factors

C. Prolactin

All three except prolactin has a alpha and beta subunit. Alpha subunit of HCG, LH, FSH & TSH are identical

A. Pregnancy

There is preponderance of navicular cells in cluster (small intermediate cells with elongated nuclei) and plenty of lactobacillus in pregnancy
Intermediate cells are due to increased progesterone - hence seen in pregnancy
Superficial cells are due to increased estrogen seen in ovarian tumors
Basal/parabasal cells are seen in condition with both decreased estrogen and progesterone that is post menopausal women.

A. 12th Week

Fetal pancreas secretes insulin as early as 12th week and glucagon by 8 weeks
(Ref Dutta text book of obstetrics)

Ultrasound in Pregnancy — Questions

103. Wavelength of USG used in obstetrics:

- A. 1-2 MHz
- B. 5-7.5 MHz
- C. 3.5-5 MHz
- D. 7.5-10 MHz

104. During USG, fetal abdominal circumference is measured at the level of:

- A. Stomach and umbilical vein, perpendicular to spine
- B. Kidneys
- C. Stomach parallel to spine
- D. Liver and spleen

105. Fetal anemia is detected on Doppler of:

- A. Uterine artery
- B. Umbilical artery
- C. Middle cerebral artery
- D. Any of the above

106. On Doppler the most ominous sign indicating fetal compromise is:

- A. 'pulsatility index in umbilical art
- B. 'S/D blood flow ratio
- C. 'cerebral artery flow
- D. Absent diastolic flow

107. AG2P, woman at 35 weeks pregnancy complains of decreased fetal movement. Next step in Mgt is:

- A. Observation
- B. Do NST
- C. Do CST
- D. Do BPS
- E. Induction reliably of labor

108. Which is the most significant finding in cardiotocography for detection of fetal hypoxia?

- A. Late deceleration
- B. Variable deceleration
- C. Sinusoidal deceleration
- D. Early deceleration

109. Sinusoidal heart rate pattern is seen in:

- A. Placenta previa
- B. Vasa previa
- C. Battledore placenta
- D. Succenturiate placenta

110. In pregnancy with increased MSAFP which of the following should be done?

- A. Repeat measurement of MSAFP at later date
- B. USG
- C. Amniocentesis
- D. Termination of pregnancy

111. During 1st stage of labor, FHR should be auscultated in low risk pregnancy after every:

- A. 10 mins
- B. 15 mins
- C. 30 mins
- D. 45 mins

112. Parameter not used to determine fetal age in midtrimester USG:

- A. BPD
- B. Femur length
- C. HC
- D. CRL

113. An HIV positive, 36 years old female on ART needs counselling. Which of the following 1st trimester markers of Down syndrome would be affected by HIV:

- A. β -hCG
- B. PAPP-A
- C. NT
- D. All of the above

114. Modified BPS consists of:

- A. NST with AFI
- B. NST with fetal breathing
- C. NST with fetal movement
- D. NST with FETAL tone

115. A G3P2, pregnant comes to your clinic at 18 weeks of gestation for genetic counselling. She has a history of two kids born with thalassemia major. Which test would you recommend now?

- A. Amniocentesis
- B. Chorionic villus sampling
- C. Cordocentesis
- D. Noninvasive prenatal testing

116. A mother comes with history of antenatal fetal death due to neural tube defect in first child. What is the amount of folic acid you will prescribe during preconceptional counselling (in micrograms/day)?

- A. 4
- B. 40
- C. 400
- D. 4000

117. Earliest diagnosis of pregnancy can be established safely by:

- A. USG for fetal cardiac activity
- B. Fetal cardiac Doppler study
- C. HCG levels
- D. MRI pelvis

118. Which of the following is done for creening of Down's syndrome in first trimester?

- A. Beta hCG and PAPP-A
- B. Unconjugated estradiol and PAPP
- C. AFP and Inhibin A
- D. AFP and beta hCG

119. Double bleb signs in USG are depictive of:

- A. Intrauterine two gestations sac
- B. Amniotic sac and yolk sac
- C. Ectopic pregnancy
- D. Heterotopic pregnancy

120. Hegar's sign of pregnancy is:

- A. Uterine contraction
- B. Bluish discoloration of vagina
- C. Softening of isthmus
- D. Quickening

103. c	104. a	105. c	106. d	107. b	108. a	109. b	110. b	111. c	112. d	113. a
114. a	115. a	116. d	117. c	118. a	119. b	120. c				



121. An expectant mother feels quickening at:

- A. 12-18 weeks
- B. 16-20 weeks
- C. 24-28 weeks
- D. 28-32 weeks

122. Best parameter for estimation of fetal age by ultrasound in 3rd trimester is:

- A. Femur length
- B. BPD
- C. Abdominal circumference
- D. Intraocular distance

123. Transvaginal USG can detect fetal cardiac activity in:

- A. 6 weeks
- B. 7 weeks
- C. 8 Weeks
- D. 10 Weeks

124. Cardiac activity of fetus by transabdominal USG is seen earliest at what gestational age:

- A. 5th week
- B. 6th week
- C. 8th week
- D. 9th week

125. Earliest detection of pregnancy by ultrasound is by:

- A. Gestation sac
- B. Fetal node
- C. FSH
- D. Fetal skeleton

126. In transvaginal ultrasound, earliest detection of gestation sac is by:

- A. 21 days after ovulation
- B. 21 days after implantation
- C. 28 days post ovulation
- D. 14 days after ovulation

127. Folic acid supplementation reduces the risk of:

- A. Neural tube defect
- B. Toxaemia of pregnancy
- C. Down's syndrome
- D. Placenta previa

128. Which is not a feature of pseudocyesis:

- A. Amenorrhoea
- B. Abdominal distension
- C. Fetal heart sounds are audible
- D. None

129. Increased demand of following occurs in pregnancy except:

- A. Folic acid
- B. Iron
- C. Vit B 12
- D. Zinc

130. Term delivery implies that the gestational age of the foetus calculated from the time of onset of last menstrual period is:

- A. 40 weeks
- B. 42 weeks
- C. 38 weeks
- D. 260 days

121. b	122. a	123. a	124. b	125. a	126. a	127. a	128. c	129. c	130. a
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Option B- Bluish discolouration of vagina is known as Jacquemier's or Chadwick's sign
Option D- Quickening denotes the perception of active fetal movements by the women.

B. 16-20 weeks

121. "Quickening" (feeling of life) denotes the perception of active fetal movements by the women. It is usually felt about the 18th week, about 2 weeks earlier in multiparae. Its appearance is an useful guide to calculate the expected date of delivery with reasonable accuracy usually felt about the 18th week, about 2 weeks earlier in multiparae

A. Femur length

122. Sonographic measurement of the crown-rump length (CRL) is the most accurate method to establish or confirm gestational age
1st trimester upto 14 weeks – CRL

In 2nd trimester-gestational age is determined by measuring the biparietal diameter (BPD), head circumference (HC), abdominal circumference (AC) and femur length (FL). It is most accurate when done between 12 and 20 weeks (variation $\pm$ 8 days). The biparietal diameter (BPD) most accurately reflects gestational age, with a variation of 7 to 10 days in the second trimester

Femur length is used as main parameter to determine gestational age in 3rd trimester

Rule- Earlier Assessment – Less Error

Ref Williams obstetric

123. **A. 6 weeks**

TVS parameters	weeks
chorionic sac	4
Gestation sac, embryo yolk sac	4-5
Fetal pole, cardiac activity	5-6
Lower limb buds,	7
Spine, choroid plexus	9

(Ref Dutta text book of obstetrics)

124. **B. 6th week**

Cardiac activity by trans abdominal usg by 6-7 weeks best answer here will be 6 weeks

125. **A. Gestation sac**

1st evidence of pregnancy is appearance of Gsac
TVS- 4.5 Weeks
TAS- 5 Weeks

126. **A. 21 days after ovulation**

Gsac is detected earliest by 4weeks 3 days post ovulation that is 21 days post ovulation

127. **A. Neural tube defect**

Folic acid supplementation (0.4 mg a day) starting 4 weeks prior to conception up to 12 weeks of

pregnancy is advised. This can reduce the incidence of neural tube defects.

(Ref Dutta text book of obstetrics)

128. **C. Fetal heart sounds are audible**

PSEUDOCYESIS-It is a psychological disorder where the woman has the false but firm belief that she is pregnant although no pregnancy exists.

The conspicuous feature is

- Cessation of menstruation.(AMENORRHOEA)
- Gradual enlargement of the abdomen because of deposition of fat, secretion from the breasts and intestinal movement, imagining it to be fetal movement.
- In some cases eventually spurious labor sets in. Obstetric examination reveals absence of positive signs of pregnancy. Examination with ultrasound and/or immunological tests for pregnancy may be required to negate the diagnosis.

(Ref Dutta textbook of obstetrics)

129. **C. vit B12**

(Ref Dutta text book of obstetrics)

Vitamin B12 deficiency is rare in pregnancy. Megaloblastic anemia in pregnancy is almost always due to folic acid deficiency. The daily requirement of Vit B12 in non-pregnant condition is 2 µg and during pregnancy is 3 µg. This amount is met with any diet that contains animal products.

Option A- Folic acid deficiency in pregnancy is due to Inadequate intake due to: (a) Nausea, vomiting and loss of appetite. Increased demand due to: (a) Increased maternal tissue including red cell volume (b) Growing fetus (c) Multiple pregnancy. Daily requirement of folic acid in a non-pregnant woman is 50–100 µg/day and during pregnancy is increased to 400 µg/day. u Diminished absorption: Intestinal malabsorption syndrome is responsible for its recurrence in subsequent pregnancies

Option B- iron deficiency is commonly seen due to increased requirement seen in pregnancy

Option D- zinc deficiency – requirement of zinc during pregnancy is increased from 12 mg in non pregnant state to 15mg in pregnant state

130. **A. 40 weeks**

The duration of pregnancy has traditionally been calculated by the clinicians in terms of 10 lunar months or 9 calendar months and 7 days or 280 days or 40 weeks, calculated from the first day of the last menstrual period. This is called menstrual or gestational age.

(Ref Dutta text book of obstetrics)

Labour — Questions

- 131. Which of the following trigger onset of labour?**
 A. ACTH in mother
 B. ACTH in fetus
 C. Prostaglandin
 D. Oxytocin
- 132. Engagement of fetal head is with reference to:**
 A. Biparietal diameter
 B. Bitemporal diameter
 C. Occipitofrontal diameter
 D. Suboccipitofrontal diameter
- 133. All of the following are included in first stage of labor except:**
 A. Effacement of Cx
 B. Dilatation of Cx
 C. Crowing of fetal head
 D. Descent of head
- 134. During active labour cervical dilation per hour in primi is:**
 A. 1.2 cm
 B. 1.5 cm
 C. 1.7 cm
 D. 2 cm
- 135. Percentage of women who deliver on the expected date of delivery:**
 A. 4%
 B. 15%
 C. 35%
 D. 70%
- 136. Pressure of normal uterine contractions is between 190-300 units is being referred to here?**
 A. Montevideo units
 B. mm of Hg
 C. cm of water
 D. joules/kg
- 137. All are true about origin and propagation of contraction except:**
 A. The right pacemaker predominates over left
 B. Intensity of propagation is greatest at cervix
 C. The contraction spreads from pacemaker towards cervix
 D. Speed of contraction is 2 cm/sec
- 138. The prerequisites for internal rotation of the head are all except:**
 A. Well-flexed head
 B. Efficient uterine contraction
 C. Favourable shape of the pelvis
 D. Tone of the abdominal muscles
- 139. The nerve roots blocked in pudendal nerve block is:**
 A. L1,2,3
 B. L2,3
 C. S2,3,4
 D. S4
- 140. When fetus is in attitude of flexion, presentation is:**
 A. Vertex
 B. Brow
 C. Cephalic
 D. Face
- 141. Most important component of Bishop score:**
 A. Position
 B. Dilatation
 C. Station
 D. Effacement
- 142. Living ligature of the uterus is:**
 A. Endometrium
 B. Middle layer of myometrium
 C. Inner layer of myometrium
 D. Perimetrium
- 143. All are sign of placental sepration except:**
 a. Lengthening of cord
 B. Gushing of blood
 C. Suprapubic bulge
 D. Increase of BP
- 144. M/c cause of maternal death after delivery:**
 A. Amniotic fluid embolism
 B. PPH
 C. Uterine inversion
 D. Pulmonary
- 145. All of the following steps are recommended by WHO for preventing PPH except:**
 A. Inj oxytocin 10 IU I/V infusion
 B. Uterine massage
 C. Delivery of placenta by controlled cord traction
 D. Intermittent assessment of uterine tone
- 146. M/c cause of death in a patient with uterine inversion:**
 A. Neurogenic shock
 B. Hamorrhagic shock
 C. Pulmonary embolism
 D. Amniotic fluid embolism
- 147. The triple P procedure for pamenta percreta involves all except:**
 A. Pelvic devascularization
 B. Placental localization using USG
 C. Peripartum hysterectomy
 D. Myometrial excision for pamenta nonseparation
- 148. A P3 female who had normal vaginal delivery develops PPH. The third stage was managed actively and placenta and membranes were expelled completely. What is the first step in management?**
 A. Carry out uterine massage
 B. Insert two 14G cannula and start I/V fluids
 C. Give oxytocin infusion
 D. Palpate the uterus to determine its consistency
- 149. All of the following methods are recommended by WHO in the treatment of PPH as temporary methods till appropriate care arrives except:**
 A. Military antishock treatment
 B. Bimanual compression of the uterus
 C. Uterus packing
 D. External aorta compression

131. b	132. a	133. c	134. a	135. a	136. a	137. b	138. d	139. c	140. a
141. b	142. b	143. d	144. b	145. b	146. b	147. c	148. b	149. c	

- 150. All cardinal movements occur during labour except:**
 A. Flexion
 B. Extension
 C. Internal rotation
 D. Descent
 E. Asynclitisms
- 151. A female at 37 weeks of gestation has mild labour pains for 10 hours and cervix is persistently 1 cm dilated but non effaced. What will be the next appropriate management?**
 A. Sedation and wait
 B. Augmentation with oxytocin
 C. Cesarean section
 D. Amniotomy
- 152. Commonest cause of non-engagement at term, in primi is:**
 A. CPD
 B. Hydramnios
 C. Brow presentation
 D. Breech
- 153. True labour pain includes all except:**
 A. painful uterine contraction
 B. Short vagina
 C. Formation of the bag of waters
 D. Progressive descent of presenting part
 E. Cervical dilatation
- 154. Assessment of progress of labour is best done by:**
 A. Station of head
 B. Rupture of membrane
 C. Contraction of uterus
 D. Partogram
- 155. Which of the following are indications for early clamping of cord**
 A. Preterm delivery
 B. Postdated pregnancy
 C. Birth asphyxia
 D. Maternal diabetes
- 156. Pressure of normal uterine contractions is:**
 A. Montevideo units
 B. Mm of Hg
 C. Cm of water
 D. Joules/kg
- 157. Ritgen maneuver is done in:**
 A. Shoulder dystocia
 B. For delivery of head in breech presentation
 C. For delivery of legs in breech
 D. For delivery of head in normal labour
- 158. During the active phase of labour, the minimum effective dilatation of the cervix in primigravida should be at the rate of:**
 A. 0.5 cm/hour
 B. 1 cm/hour
 C. 1.5 cm/hour
 D. 2 cm/hour
- 159. Factors which help in descent of the presenting part during labour are all except:**
 A. Uterine contraction and retraction
 B. Straightening of the fetal axis
 C. Bearing down efforts
 D. Resistance from the pelvic floor
- 160. The perineal injury can be prevented in normal labour by all except:**
 A. Maintaining flexion of the head
 B. Timely episiotomy as a routine
 C. Slow delivery of the head in between contractions
 D. Effective perineal guard
- 161. True statement concerning active phase of labour:**
 A. Starts when the cervix is 3 cms dilated
 B. Cervix dilates at the rate of 2 cm/hr
 C. Epidural analgesia slows the progress
 D. Oxytocin should not be used
- 162. Intrauterine pressure is raised during labour to:**
 A. First stage-40-50 mm Hg
 B. Second stage- 100-120 mm Hg
 C. Third stage-100-120 mm hg
 D. All of the above
- 163. The smallest diameter of the true pelvis is:**
 A. Interspinous diameter
 B. Diaognal conjugate.
 C. True conjugatge.
 D. Intertuberous diameter
- 164. The shortest diameter of fetal head is:**
 A. Biparietal diameter
 B. Suboccipito frontal diameter
 C. Occipito frontal diameter
 D. Bitemoral diameter
- 165. Which type of pelvis is associated with increased incidence of 'Face to pubis' delivery:**
 A. Gynaecoid pelvis
 B. Anthropoid pelvis
 C. Android pelvis
 D. Platypelloid pelvis
- 166. Shortest diameter is:**
 A. Diagonal conjugate
 B. Obstetric conjugate
 C. True conjugate
 D. All are equal
- 167. Longest diameter of fetal skull is:**
 A. Biparital
 B. Bitemporal
 C. Occipito temporal
 D. Submentovertical
- 168. Critical obstetric conjugate for trial of labour is:**
 A. 8.5 cms
 B. 9.0 cms
 C. 9.5 cms
 D. 10.0 cms
- 169. Dystocia dystrophia syndrome:**
 A. Android pelvis
 B. Platypelloid pelvis
 C. Anthropoid
 D. Gynaecoid pelvis
- 170. CPD is best assessed by:**
 A. CT scan
 B. Ultrasound
 C. Radio pelvimetry
 D. Pelvic assessment
- 171. If both the ala of the sacral bone are absent, pelvis is called as:**
 A. Naegele pelvis
 B. Robert pelvis
 C. Triradiate
 D. Rachitic pelvis

150. e	151. a	152. a	153. b	154. d	155. c	156. a	157. d	158. b	159. d	160. b
161. c	162. d	163. a	164. d	165. b	166. b	167. d	168. d	169. a	170. a	171. b

Labour — Explanations

B. ACTH in fetus

A. Biparietal diameter

Engagement is said to occur when the largest transverse diameter of fetal head crosses the pelvic inlet. Largest transverse diameter of fetal head is: Biparietal diameter

C. Crowning of fetal head

Crowning is a cardinal movement of labor which occurs during second stage.

A. 1.2 cm

Labour is said to active when:

- Cervix is dilated to at least 6 cm.⁹
- Regular uterine contractions are present.⁹
- Rate of dilatation is at least 1.2 cm/hr⁹ for nulliparous and 1.5 cm/hr⁹ for parous women

A. 4%

Expected date of delivery is calculated using Naegele's rule, i.e.

- EDD is 9 months + 7 days calculated from the 1st day of last menstrual period
- This rule is based on a normal 28 days cycle
- In case of women with longer cycle additional number of days that the extends beyond 28 days is added.
- Based on the formula, labour starts approximately
- On the expected date in 4% cases
- One week on either side in 50% cases
- 2 weeks earlier and 1 week later in 80% cases

136. A. Montevideo units

Montevideo unit is to define uterine activity.

As per this:

Clinical labour usually commences when uterine activity reaches values between 80-120 monteideo units (This translates into approximate 3 contractions of 40 mm of Hg every 10 mins)

During labour _____ Normal uterine contractions are between 190-300 Monteideo units (At the time of delivery it is 300 Monteideo units)

137. B. Intensity of propagation is greatest at cervix

Intensity is greatest at fundus of uterus (Ref. Dutta)

138. D. Tone of the abdominal muscles

139. C. S2,3,4

140. A. Vertex

141. B. Dilatation

The most important component of Bishop score is dilatation of cervix

142. B. Middle layer of myometrium

The middle layer of myometrium is called as **Living Ligature** as it has fibres running in criss cross

manner. Thus when uterus contracts after delivery, these fibres contracts and the blood vessels constrict.

143. D. Increase of BP

144. B. PPH

M/c cause of death after delivery is PPH

145. B. Uterine message

Prevention of PPH in other words means active management of third stage of labor (AMTSL). Earlier uterine message was included in AMTSL, but now WHO does not recommend uterine massage as a component of AMTSL.

Uterine massage is now recommended by WHO in the treatment of PPH.

146. B. Hamorrhagic shock

Shock in uterine inversion is initially neurogenic (vasovagal) with inversion uterus becomes atonic and bleeding occurs which leads to hemorrhagic shock.

M/c cause of death in uterine inversion-haemorrhagic shock

147. C. Peripartum hysterectomy

148. B. Insert two 14G cannula and start I/V fluids

This patient has developed PPH but always the first step in management- when any patient comes with bleeding is general resuscitation which includes inserting two 14G cannulae and starting I/V fluids.

149. C. Uterus packing

WHO recommends following methods as temporary method till appropriate care arrives

1. Military anti- shock garments
 2. Binamal compression of uterus
 3. External aorta compression
- It does not recommend uterine packing rather as a temporary measure nor as permanent method.

150. E. Asynclitisms

The principal movements are: (1) engagement, (2) descent, (3) flexion, (4) internal rotation, (5) crowning, (6) extension, (7) restitution, (8) external rotation, and (9) expulsion of the trunk

Due to lateral inclination of the head, the sagittal suture does not strictly correspond with the available transverse diameter of the inlet. Instead, it is either deflected anteriorly toward the symphysis pubis or posteriorly toward the sacral promontory. Such deflection of the head in relation to the pelvis is called asynclitism. which is not included in principle moments of labour.

151. A. Sedation and wait

These are false Labour pains and hence managed by pain relief and waiting.

152. A. CPD

Conditions preventing engagement of the head can result in slipping of either upper or lower limbs by the side of the head. Prematurity (the most common), deflexed head, contracted pelvis, pelvic tumors, multiple pregnancy, macerated fetus, high head with premature or early rupture of the membranes and hydramnios are the known etiological factors

153.**B. Short vagina**

True labor pain is characterized by: (i) Painful uterine contractions at regular intervals, (ii) frequency of contractions increase gradually, (iii) intensity and duration of contractions increase progressively, (iv) associated with "show", (v) progressive effacement and dilatation of the cervix, (vi) descent of the presenting part, (vii) formation of the "bag of forewaters" and (viii) not relieved by enema or sedatives.

154.**D. Partogram**

partograph is graphical representation of degree of progress of labor.

It includes many indicator which gives complete information regarding process of labor and we can also assess descent of head and degree of uterine contraction with the help of partograph

155.**C. Birth asphyxia**

Early clamping should be done in cases of Rh-incompatibility (to prevent antibody transfer from the mother to the baby) or babies born asphyxiated (Ref Dutta text book of obstetrics)

156.**A. Montevideo units**

Montevideo units are calculated by subtracting the baseline uterine pressure from the peak contraction pressure for each contraction in a 10-minute window and adding the pressures generated by each contraction

Inadequate uterine contractions, defined as less than 180 Montevideo units

90 percent of women achieve 200 to 225 Montevideo units, and 40 percent achieve at least 300 Montevideo units. These results suggest that certain minimums of uterine activity should be achieved before performing cesarean delivery for dystocia (Ref Williams textbook of obstetrics)

157.**D. For delivery of head in normal labour**

Ritgen's maneuver is accomplished by pushing the chin with a sterile towel covered fingers of the right hand placed over the anococcygeal region while the left hand exerts pressure on the occiput. The forehead, nose, mouth and the chin are thus born successively over the stretched perineum by extension. This is done when the suboccipitofrontal diameter emerges out. And it is done for Slow delivery of the head in between the contractions

For shoulder dystocia - wood's cork screw maneuver and Jaqueimers maneuvers is used

For delivery of head in breech presentation - Burns-Marshall method modified Mauriceau-Smellie-Veit technique

For delivery of legs in breech - pintards maneuver is used

158.**B. 1 cm/hour**

Dilatation of the cervix at the rate of 1 cm/h in primigravidae and 1.5 cm in multigravidae beyond 4 cm dilatation (active phase of labor) is considered satisfactory.

(Ref Dutta text book of obstetrics)

159.**D. Resistance from the pelvic floor**

Delivery of the fetus is accomplished by the

1. Downward thrust offered by uterine contractions supplemented by voluntary contraction of abdominal muscles called "bearing down" efforts.

2. This is effectively counterbalanced by the power of retraction

3. Straightening of the fetal axis

against the resistance offered by bony and soft tissues of the birth canal. There is always a tendency to push the fetus back into the uterine cavity by the elastic recoil of the tissue of the vagina and the pelvic floor.

(Ref Dutta textbook of gynaecology)

160.**B. Timely episiotomy as a routine**

PREVENTION OF PERINEAL LACERATION: More attention should be paid not to the perineum but to the controlled delivery of the head.

- Delivery by early extension is to be avoided.

- Spontaneous forcible delivery of the head is to be avoided by assuring the patient not to bear down during contractions.

(To deliver the head in between contractions.)

To perform timely episiotomy (when indicated). And Not As Routine

- To take care during delivery of the shoulders as the wider bisacromial diameter (12 cm) emerges out of the introitus.

- Effective perineal pressure

- (Ref Dutta text book of obstetrics)

161.**C. Epidural analgesia slows the progress**

Option A Active phase of labor begins when the cervix is 4 cm dilated and not when its 3-4cm dilated

Option B- Dilatation of the cervix at the rate of 1 cm/h in primigravidae and 1.5 cm in multigravidae beyond 4 cm dilatation (active phase of labor) is considered satisfactory

Option C Epidural analgesia slows down the progress of labour

162.**D. All of the above**

Intrauterine pressure is raised to 40-50 mm Hg during first stage and about 100-120 mm Hg in second stage of labor during contractions. In spite of diminished pain in third stage, the intrauterine pressure is probably the same as that in the second stage.

Ref Dutta text book of obstetrics)

163.**A. Interspinal diameter**

Smallest diameter of true pelvis is interspinal diameter that is 10.5 cm

Option b-Diagonal conjugate - distance between the lower border of symphysis pubis to mid point of sacral promontory measures 12cm



Option c-True conjugate- distance between midpoint of sacral promontory to inner margin of upper border of symphysis pubis – 11 cm
 Option d- Intertuberous diameter- measures distance between inner border of ischial tuberosities measuring 11 cm

D. Bitemporal diameter

Bitemporal diameter which is distance between the antero inferior ends of coronal sutures measuring 8 cm

Option A – Biparietal diameter – extends between two parietal eminences measuring 9.5 cm

Option B- Suboccipito frontal extends from nape of neck to anterior end of anterior fontanelle or centre of sinciput measuring 10.5cm

Option C- Occipito frontal diameter- extends from occipital eminence to root of nose (glabella) measuring 11.5 cm

Shortest diameter is **bitemporal** while longest diameter is Mento-vertical (14cm)

B. Anthropoid pelvis

(Ref : text book of obstetrics D.C.Dutta's)

Face to pubis delivery occurs in occipito posterior position and in more than 50% the persistent occipito posterior position is associated with anthropoid and android pelvis as the shape of inlet significantly determines the position of head at onset of labour here the wide occiput can comfortably be placed in wider posterior segment of pelvis.

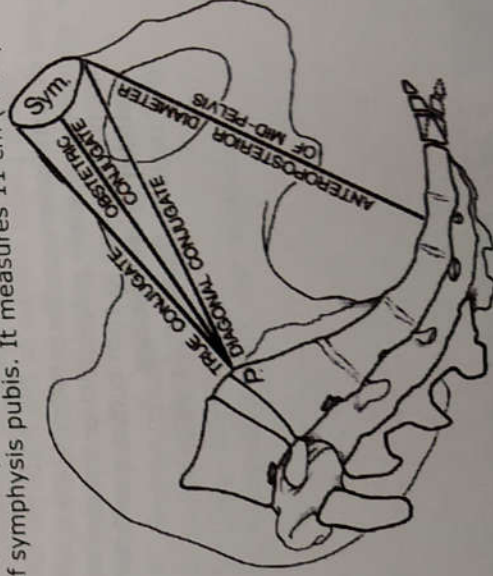
B. Obstetric conjugate

(Ref. Dc Dutta textbook of obstetrics)

Obstetric conjugate is the distance between the midpoint of the sacral promontory to prominent bony projection in the midline on the inner surface of the symphysis pubis. It is the shortest anteroposterior diameter in the anteroposterior plane of the inlet. It measures 10 cm (4").

Option A Diagonal conjugate: It is the distance between the lower border of symphysis pubis to the midpoint on the sacral promontory. It measures 12 cm (4 ¾")

Option C True conjugate (Syn: Anteroposterior conjugate, anatomical conjugate, conjugate vera): It is the distance between the midpoint of the sacral promontory to the inner margin of the upper border of symphysis pubis. It measures 11 cm (4 ¼")



167.

D. Submentovertical

(Ref Dc Dutta textbook of obstetrics)

Submentovertical is the longest diameter of foetal skull among the given options measuring 11.5cm

Option A Biparietal diameter is 9.5 cm (3 ¾"): It extends between two parietal eminences. Whatever may be the position of the head, this diameter nearly always engages

Option B Bitemporal diameter—8 cm (3 ¼"): It is the distance between the anteroinferior ends of the coronal suture

Option C occipito temporal diameter doesn't exist in foetal skull

168.

D. 10.0 cms

10 cm (Ref Dc Dutta textbook of obstetrics)

Value of obstetric conjugate for trial of labour is 10cm. Pelvic inlet contraction is considered when the obstetric conjugate is < 10 cm or the greatest transverse diameter is < 12 cm or diagonal conjugate is < 11 cm.

Midpelvis is considered contracted when the sum of the interischial spinous and posterior sagittal diameters of the midpelvis (normal: 10.0 + 5 = 15.0 cm) is 13.0 cm or below

169.

A. Android pelvis

Dystocia dystrophica syndrome: This syndrome is characterized by the following features: The patient is stockily built with bull neck, broad shoulders, obese with a male distribution of hairs.

They are usually subfertile, having dysmenorrhea, oligomenorrhea or irregular periods. Pelvis is of the android type. Occipito-posterior position is common. During labor, inertia is common and there is a tendency for deep transverse arrest or outlet dystocia. There is a chance of lactation failure.

(Ref: Dc Dutta textbook of obstetrics)

170.

A. CT scan

For Pelvic assessment MRI>CT>X-ray>Pelvic Assessment

Pelvic assessment at 37 weeks in primigravida and at the onset of labor in multigravida

171.

B. Robert pelvis

172.

D. Trial of labor

Adequacy of pelvis is best assessed by Trial of labor.

173.

C. Ring can be palpated per abdomen

Schroeder's ring -It is one form of incoordinate uterine action where there is localized myometrial contraction forming a ring of circular muscle fibers of the uterus.

It may appear in all the stages of labor. It is usually reversible and complete. The common causes are:

- (1) **injudicious administration of oxytocics,**
- (2) premature rupture of the membranes, and (3) premature attempt at instrumental delivery.

It is revealed during cesarean section in the first stage, during forceps application in the second stage and during manual removal in the third stage (hour-glass contraction). **The ring is not felt per abdomen.**



The ring usually passes off by deepening the plane of anesthesia otherwise the ring may have to be cut vertically to deliver the baby.
(Ref Dutta textbook of obstetrics)

174. A. The ring is always felt on abdominal examination

CONstriction RING also known as Schroeder's ring. It is one form of incoordinate uterine action where there is localized myometrial contraction forming a ring of circular muscle fibers of the uterus. It is usually situated at the junction of the upper and lower segment around a constricted part of the fetus usually around the neck in cephalic presentation. It is revealed during cesarean section in the first stage, during forceps application in the second stage and during manual removal in the third stage (hour-glass contraction). The ring is not felt per abdomen.
(Ref Dutta textbook of obstetrics)

175. C. Oxytocin has got a definite place in the management

The underlying principles are: (1) to relieve the obstruction at the earliest (no wait and watch policy) by a safe delivery procedure, (2) to combat dehydration and ketoacidosis, (3) to control sepsis. There is no place of "wait and watch", neither is any scope of using oxytocin to stimulate uterine contraction.

Exploration of the uterus and the lower genital tract should be done to exclude uterine rupture or tear.
(Ref Dutta textbook of obstetrics)

176. D. T4

In spinal anaesthesia for cesarean delivery level of sensory block should be up to T4 dermatome. It can be employed to alleviate the pain of delivery and during the third stage of labor. For normal delivery or for outlet forceps with episiotomy, ventouse delivery, block should extend from T10 (umbilicus) to S1. Hyperbaric bupivacaine (5–10 mg) or lignocaine (25–50 mg) is used.

177. B. Couvelaire uterus

178. D. Mid pelvic contraction

In all of the following options VBAC can be tried except in mid pelvic contraction which is one of the absolute indication for C-section

In occipitoposterior position – in 90% of cases normal vaginal delivery occurs while only in 10% cases patient goes in malrotation/ non rotation/ deep transverse arrest

In fetal distress augmentation of labour can be done

via various techniques but c-section is not always indicated

Breech can easily be delivered by normal vaginal route in maximum cases, sometimes assisted breech delivery techniques are used but C-Section is not always indicated

(Ref : Dutta textbook of obstetrics)

179. B. Previous lower segment transverse caesarean

Contraindications for VBAC-TOL (Indications for Cesarean Delivery) n

- Previous classical or inverted T-shaped uterine incision n
- Previous two or more lower segment cesarean section n
- Pelvis contracted or suspected CPD n
- Presence of other complications in pregnancy: Obstetric (preeclampsia, malpresentation, placenta previa) or medical n
- Resoruces limited for emergency cesarean delivery or patient refusal for VBAC-TOL
- History of prior uterine rupture

180. B. 3-4 min

Oxytocin has a half-life of **3–4 minutes** and a duration of action of approximately 20 minutes. It is rapidly metabolized and degraded by oxytocinase.
(Ref Dutta textbook of obstetrics)

181.

D. Epidural block

When complete relief of pain is needed throughout labor, **epidural analgesia** is the safest and simplest method for procuring it. It provides sensory as well as various degrees of motor blockade over a region of the body.

A local anesthetic agent (0.5% bupivacaine) is injected into the epidural space. For complete analgesia a block from T10 to the S5 dermatomes is needed. For cesarean delivery a block from T4 to S1 is needed.

(Ref Dutta textbook of obstetrics)

182.

D. Shoulder

When the long axis of the fetus lies perpendicularly to the maternal spine or centralized uterine axis, it is called transverse lie. But more commonly, the fetal axis is placed oblique to the maternal spine and is then called oblique lie. In either of the conditions, the shoulder usually presents over the cervical opening during labor and as such both are collectively called

shoulder presentations

(Ref Dutta textbook of obstetrics)

Abnormal Labour — Questions

183. Cause of death in breech delivery:

- A. Intracranial hemorrhage
- B. Aspiration
- C. Atlanto axial dislocation
- D. Asphyxia

184. 38 weeks primi in early labour with transverse presentation, TOC is:

- A. Allow for cervical dilation
- B. Internal podalic version
- C. LSCS
- D. Forceps

185. The commonest cause of occipito-posterior position of fetal head during labour is:

- A. Maternal obesity
- B. Deflexion of fetal head
- C. Multiparity
- D. Android pelvis

186. When in labor, a diagnosis of occipito posterior presentation is made. The most appropriate management would be:

- A. Emergency CS
- B. Wait and watch for progress of labor
- C. Early rupture of membranes
- D. Start oxytoicin drip

187. Diameter of engagement in face presentation diameter in face presentation:

- A. Mentovertical
- B. Suboccipitobregmatic
- C. Submentobregmatic
- D. Suboccipitoververtical

188. A multigravida with previous 2 normal deliveries presents with unstable lie of the fetus at 34 weeks gestation. What could be the most probable cause?

- A. Placenta previa
- B. Oligohydramnios
- C. Uterine anomaly
- D. Pelvic tumour

189. Incidence of cord prolapsed is least in:

- A. Frank breech
- B. Footling presentation
- C. Transverse lie
- D. Brow presentation

190. For delivery of the after-coming head in breech presentation following forceps/methods are used except:

- A. Wrigely's forceps
- B. Kielland's forceps
- C. Das's variety forceps
- D. Mauriceau smellie, veit technique

191. In a case of direct occipitoposterior position (face to pubis delivery) most commonly encountered problem is:

- A. Intracranial injury
- B. Cephalhematoma
- C. Paraurethral tears
- D. Complete perineal tears

192. Deep transverse arrest is seen in all except:

- A. Android pelvis
- B. Epidural analgesia
- C. Transverse lie
- D. Uterine inertia

193. All of the following are contraindications to tocolysis except:

- A. Chorioamnionitis
- B. Fetal distress
- C. Anencephaly
- D. Placenta previa

194. The complications of shoulder presentations are all of the following except:

- A. Fetal death
- B. Uterine rupture
- C. Obstructed labour
- D. Shoulder dystocia

195. The following are related to face presentation except:

- A. The commonest position is LMA
- B. Engaging diameter is submentobregmatic
- C. The diameter distending the vulval outlet is mentovertical
- D. During moulding, there is elongation of occipitofrontal

196. In which fetal presentation vaginal delivery can be expected:

- A. Face presentation when the chin lies direct to the sacrum
- B. Brow presentation
- C. Shoulder presentation
- D. Face presentation when the chin lies under the symphysis pubis

197. On external cephalic version, fetal bradycardia occurred. The next course of action is:

- A. Reversion to the original position immediately by external version
- B. Internal podalic version
- C. Cesarean section
- D. Rupture of the membranes

198. Zavenelli's maneuver done in:

- A. Shoulder dystocia
- B. Deep transverse arrest
- C. Retained placenta
- D. Face presentation

183. a	184. c	185. d	186. b	187. c	188. a	189. d	190. a	191. d	192. c
193. d	194. d	195. c	196. d	197. a	198. a				

Abnormal Labor — Explanations

183.

A. Intracranial hemorrhage

Causes of death in breech delivery are :

- Intracranial haemorrhage (most common cause) results in death in breech delivery - Compression followed by decompression during delivery of the unmolded after-coming head results in tear of the tentorium cerebelli and hemorrhage in the subarachnoid space. The risk is more with preterm babies
 - Birth asphyxia (2nd common cause) : It is due to—(1) Cord compression soon after the buttocks are delivered and also when the head enters into the pelvis (2) Retraction of the placental site, (3) Premature attempt at respiration (amniotic fluid, vaginal fluid) while the head is still inside, (4) Delayed delivery of the head, (5) Cord prolapse and (6) Prolonged labor.
 - Fractures—The common sites are femur, humerus, clavicle and odontoid process. There may be dislocation of the hip joint, mandible or 5th and 6th cervical vertebrae and epiphyseal separation
- Atlanto axial dislocation is not commonly seen in breech delivery

184.

C. LSCS

There is no mechanism of labor in transverse lie and an average size baby fails to pass through an average size pelvis. If labour is attempted in transverse presentation following event may occur

- There may be premature rupture of the membranes with escape of good amount of liquor because of absence of ball valve action of the presenting part.
- The hand of the corresponding shoulder may be prolapsed with or without a loop of cord. The cord may be prolapsed in isolation.
- There is increased chance of ascending infection from the lower genital tract.
- With increasing uterine contractions, the shoulder becomes wedged and impacted into the pelvis and the prolapsed arm becomes swollen and cyanosed. Gradually features of obstructed labor supervene. (Ref Dutta textbook of obstetrics)

185.

D. Android pelvis

The shape of the inlet significantly determines the position of the head at the onset of labor. In more than 50%, the occipitoposterior position is associated with either an **anthropoid or android pelvis**. The wide occiput can comfortably be placed in the wider posterior segment of the pelvis. Other causes are :

- Marked deflection of the fetal head
- Abnormal uterine contraction, which may be the cause or effect, leads to persistent deflexion and occipitoposterior position

186.

B. Wait and watch for progress of labor

The underlying principles in the management of the occipitoposterior position are—

- (1) early diagnosis,
 - (2) strict vigilance with watchful expectancy hoping for descent and anterior rotation of the occiput, and
 - (3) judicious and timely interference, if necessary, (if there is failure to progress (arrest) in spite of good uterine contractions for about 1/2-1 hour after full dilatation of the cervix, interference is indicated.)
- Occipitoposterior position is not an indication of cesarean section. Pelvic inadequacy or its unfavorable configuration, along with obstetric complications such as, pre-eclampsia, postcesarean pregnancy, big baby usually need cesarean section
- (Ref Dutta textbook of obstetrics)

187.

C. Submentobregmatic

Diameter of engagement in face presentation - Submentobregmatic which extends from junction of floor of the mouth and neck to the center of the bregma.

(Ref Dutta textbook of obstetrics)

188.

A. Placenta previa

Oblique lie is often called as unstable lie as it usually converts to longitudinal or transverse lie at labour. Most common cause is idiopathic among known causes it is Placenta Previa.

189.

D. Brow presentation

Incidence of cord prolapsed in malpresentations—the most common being transverse (5-10%) and breech (3%) especially with flexed legs or foisting and compound (10%) presentation

(Ref Dutta textbook of obstetrics)

190.

A. Wrigley's forceps

Methods used in delivery of aftercoming head are:

(a) Burns-Marshall method

(b) Ordinary forceps with usual length of shank, as in Das's variety, is quite effective. Piper forceps is especially designed (absent pelvic curve) for use in this condition, Kielland's forceps can be used in malrotated or unrotated head. While Wrigley's forceps are used exclusively in outlet forceps operation and not used for aftercoming head.

(c) Malar flexion and shoulder traction (modified Mauriceau-Smellie-Veit technique)

(Ref Dutta textbook of gynaecology)

191.

D. Complete perineal tears

Complete perineal tear is commonly seen in patients with face to pubis delivery. In such cases proper conduction of delivery and liberal episiotomy should be done to prevent them. Chance of perineal damage is more because of a wide biparietal diameter—9.5 cm (3 3/4") stretches the perineum and submentovertebral diameter 11.5 cm (4 1/2") emerges out of the introitus

Intracranial injury and hematoma are commonly seen in breech delivery

While paraurethral tears are associated with vulval lacerations and can be seen in many conditions

**C. Transverse lie**

Causes of deep transverse arrest :

- (a) Faulty pelvic architecture such as prominent ischial spines, flat sacrum and convergent side walls (Android pelvis) (b) Deflexion of the head, (c) Weak uterine contraction, (utrine inertia) (d) Laxity of the pelvic floor muscles (e) epidural analgesia causes prolongation of labour hence can result in DTA in OP position

D. Placenta previa

In all the above options except in option D augmentation of labour is done so as to terminate the pregnancy

In chorioamnionitis – to prevent chances of infection labour is augmented hence tocolytics are contraindicated

In fetal distress to save life of baby augmentation of labour is required

In anencephaly termination of pregnancy is indicated hence tocolytics are given

While in placenta previa if contractions are initiated arrest of labour is done by tocolytics so as to prevent chances of bleeding hence answer here is option D

D. Shoulder dystocia

complications are

- impacted shoulder ®
- obstructed labor ®
- rupture of uterus with clinical evidences of dehydration, ketoacidosis, shock and sepsis
- can cause fetal distress and eventually fetal death
- hence option A B C can be seen in patients with shoulder presentation

shoulder dystocia is seen in macrosomic babies seen commonly in diabetes or in babies associated with ascites so answer here is option D

195. C. The diameter distending the vulval outlet is mentovertical

The most common position is left mentoanterior (LMA)—As the ROP position is 5 times more common than LOP and as the conversion of face occurs from deflexed OP, LMA is the commonest. Overall anterior positions are more frequent than the posterior one. The engaging diameter of the head is submentobregmatic 9.5 cm (3 3/4”) in fully extended head or submentovertical 11.5 cm (4 1/2”) in

partially extended head in not mentovertical which is seen in brow presentation

Due to poor venous return from the head and neck, marked caput forms, distorting the entire face.. There is no compression of the facial bones but there is elongation of occipitofrontal diameter

(Ref Dutta textbook of obstetrics)

196. D. Face presentation when the chin lies under the symphysis pubis

There is no mechanism of labor in an average size baby with normal pelvis in both brow and shoulder presentation

While in mentoposterior position that is Face presentation when the chin lies direct to the sacrum there is no possibility of spontaneous delivery. This is because the relatively short neck cannot clear off the total length of the sacrum (12 cm). As such the thorax is thrust in, resulting bregmaticosternal diameter (18 cm or 7”) to occupy the pelvis. As a result, the labor becomes inevitably obstructed.

197. A. Reversion to the original position immediately by external version

In ECV there may be undue bradycardia due to head compression which is expected to settle down by 10 minutes, If however fetal bradycardia persists, the possibility of cord entanglement should be kept in mind and in such cases **reversion** may have to be considered

(Ref Dutta textbook of obstetrics)

198. A. Shoulder dystocia

Management of shoulder dystocia is :

1. H-Call for HELP
2. E-Episiotomy
3. L- LEG FLEXION- Mc Roberts maneuver
4. P-Supra Pubic pressure (Remember Not Fundal Pressure it is contraindicated in SD)
5. E- Enter's maneuver or Woods corkscrew maneuver
6. R-Rubin maneuver- this attempts in abducting both shoulders by applyinf force on mothers abdomen
7. R-Roll the patient on all 4 limbs – Gaskin all four
8. Last resort is Zavenelli's maneuver-push the baby inside then do c-section you can remember all the steps as HELPERR

Instrumental Delivery — Questions

- 199.** All are complications of vacuum assisted delivery over forceps delivery except
 A. Cephal hematoma
 B. Subgaleal hematoma
 C. Intracranial hemorrhage
 D. Transient lateral rectus palsy
- 200.** True about vacuum extraction of fetus:
 A. Can be used in non dilated cervix
 B. Used in face presentation
 C. Applied 3 cm posterior to anterior fontanel
 D. Applied 3 cm anterior to posterior fontanel
- 201.** In the criteria for outlet forceps application all are incorrect except:
 A. Fetus should be in vertex presentation of face with mento anterior
 B. Sagittal suture should be less than 15 degrees from antero posterior plane
 C. There should be no caput succedaneum
 D. Head should be at Zero station
- 202.** In heart disease, prophylactic forceps is applied at head station of:
 A. -1
 C. 0
 B. +1
 D. +2
- 203.** Forceps should NOT be used in:
 A. Mentoposterior
 B. Deep transverse arrest
 C. After coming head
 D. Meternal heart disease
- 204.** All of the following are true regarding forceps and vacuum delivery except:
 A. Vacuum requires more clinical skills than forceps
 B. Vacuum is preferred more in HIV patients than forceps
 C. Forceps is more associated with fetal facial injury
 D. Vacuum has more chance of formation of cephalhaematoma

199. c	200. d	201.	202. d	203. a	204. a
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Instrumental Delivery — Explanations

199.

C. Intracranial hemorrhage

Complications seen in fetus during forceps delivery are: Asphyxia, facial bruising, Cephalohematoma, facial palsy, skull fractures, cervical spine injury (rotational forceps) intracranial hemorrhage are seen in forceps delivery due to rupture of the great vein of Galen

Complications during ventose delivery: (1) Superficial scalp abrasion (2) sloughing of the scalp and (3) cephalohematoma—due to rupture of emissary veins beneath the periosteum. Usually it resolves by one or two weeks (4) subaponeurotic (subgaleal) hemorrhage (not limited by suture line as it is not subperiosteal) (5) nerve palsies (6) retinal hemorrhage (no long-term effect) and (7) jaundice.

200.

D. Applied 3 cm anterior to posterior fontanel

- The cup is introduced after retraction of the perineum with two fingers of the other hand. The cup is placed against the fetal head nearer the occiput (flexion point) with the "knob" of the cup pointing towards the occiput. Flexion or pivot point is an imaginary site located midsagittally about 6 cm from the center of the anterior fontanel or about 3 cm in front of the posterior fontanel.

- Cervix should be dilated to apply vacuum
- Vacuum application is contraindicated in any presentation other than vertex (face, brow, breech)

(Ref Dutta textbook of obstetrics)

201.

A. Fetus should be in vertex presentation of face with mento anterior

Criteria for outlet forceps application :

- Scalp is visible at the introitus without separating the labia n
- Fetal skull has reached the level of the pelvic floor and should be in vertex presentation with mento anterior and not mentoposterior „n
- Sagittal suture is in direct anteroposterior diameter or in the right or left occiput anterior or posterior position „n
- Fetal head is at or on the perineum
- Rotation is < 45°

(Ref Dutta textbook of obstetrics)

202.

D. +2

PROPHYLACTIC FORCEPS (ELECTIVE): It refers to forceps delivery only to shorten the second stage of labor when maternal and/or fetal complications are anticipated.

The indications are: (1) Eclampsia (2) heart disease (3) previous history of cesarean section (4) postmaturity (5) low-birth-weight baby (6) to curtail the painful second stage and (7) patients under epidural analgesia.

It prevents possible fetal cerebral injury due to pressure on the perineum and spares the mother from the strain of bearing down efforts. Prophylactic forceps should not be applied until the criteria of low forceps are fulfilled.

For low forceps - Leading point of the fetal skull (station) is at +2 cm or more but has not yet reached the pelvic floor. (according to ACOG-2000)

203.

A. Mentoanterior

For deep transverse arrest - rotational forceps are used

For after coming head- Das variety , Piper's forcep Maternal heart disease- elective forceps are used in patients with heart disease.

Forceps delivery is only reserved for mentoanterior position. The blades are applied as in occipitoanterior position and never used for mentoposterior (Ref Dutta textbook of obstetrics)

204.

A. Vacuum requires more clinical skills than forceps

- „Vacuum is easier to learn comparing to forceps, Simplicity of use in delivery makes it convenient to the operator (suitable for trained midwives)
- Vacuum is preferred more in HIV patients than forceps as It is comfortable and has lower rates of maternal trauma and genital tract lacerations
- Cephalhematoma commonly occur in vacuum —due to rupture of emissary veins beneath the periosteum. Usually it resolves by one or two weeks
- Fetal facial injuries as well as perineal injuries are common with forceps as compared to vacuum which is associated with intracranial haemorrhage, cephalhematoma

Induction of Labour — Questions

205. Indication for induction of labour is:

- A. Placenta previa
- B. PIH at term
- C. Heart disease at term
- D. Breech

206. Induction at term is not done in:

- A. Hypertension
- B. DM
- C. Heart disease
- D. Renal disease

207. In bishop score all are included except.

- A. Effacement of cervix
- B. Dilatation of cervix
- C. Station of head
- D. Interspinal diameter

208. All of the following are features of obstructed labor except:

- A. Hot dry vagina
- B. Tonic contracted uterus
- C. Bandl's ring
- D. Unruptured membranes

209. M/C fistula as a complication of obstructed labor:

- A. Uretero vaginal fistula
- B. Urethro vaginal fistula
- C. VVF
- D. Vesico uterine fistula

210. In classical cesarean section more chances of rupture of uterus is in:

- A. Upper uterine segment
- B. Lower uterine segment
- C. Uterocervical junction
- D. Posterior uterine uterine segment

211. Traction force required for forceps delivery in primigravida is:

- A. 15 kg
- B. 18 kg to 20 kg
- C. 13 kg
- D. 25kg

212. Optimum interval between uterine incision and delivery of fetal head during cesarean section should be:

- A. 90 secs
- B. 90-150 secs
- C. 150-200 secs
- D. 200 sec

213. A Primipara complains of sudden onset vaginal discharge at 32 weeks of pregnancy.

P/A=No contraction

Cephalic presentation

Fetal heart sounds= Normal. What is the first step in management?

- A. Start broad spectrum antibiotics
- B. Start cortisoteriod
- C. Perform sterile perspeculum examination
- D. Perform sterile vaginal examination

214. Which of the following investigation are essential before cervical cerclage is performed:

- A. Estimate C- reactive protein levels

- B. Perform a white cell count
- C. Perform a transvaginal ultrasound scan to assess the cervical length and exclude funnelling
- D. Cervical length of 22 mm on TVS

215. A G2P1 female at 35 weeks experience uterine contractions. No fetal distress is seen and membranes are not ruptured. Which of the following is to be done?

- A. 12 mg betamethasone injection
- B. Vaginal swab culture
- C. Tocolytic therapy
- D. Cervical cerclage

216. Blood will interfere with the nitrazine test for detecting ruptured membranes because:

- A. It is acid
- B. It is alkaline
- C. It contains increased amounts of sodium chloride
- D. It contains decreased amounts of sodium chloride

217. In post-term pregnancy, there is increased risk of all except:

- A. Postpartum hemorrhage
- B. Meconium aspiration syndrome
- C. Intracranial hemorrhage
- D. Placental insufficiency leading to fetal hypoxia

218. All of the following are used for induction of labour, EXCEPT:

- A. PG F2 a tablet
- B. PG E, tablet
- C. PG E2 gel
- D. Misoprostol

219. All of the following drugs are effective for cervical ripening during pregnancy except:

- A. Prostaglandin E2
- B. Oxytocin
- C. Progesterone
- D. Misoprostol

220. Best method of induction of labour in hydramnios:

- A. High rupture of the membranes
- B. Low rupture of the membranes
- C. Abdominal amniocentesis followed by stabilizing oxytocin drip
- D. Prostaglandins

221. Which one of the following methods for induction of labour not be used in patient with previous lower segment caesarean section?

- A. Prostaglandin Gel
- B. Prostaglandin tablet
- C. Stripping of the membrane
- D. Oxytocin drip

222. A lady with previous CS presents in labour. Trial of scar is contraindicated in all except:

- A. H/O previous LSCs due to malpresentation
- B. Knowing the fact that the previous CS was due to CPD
- C. H/O Previous classical CS
- D. Previous 3LSCs

205. b	206. c	207. d	208. d	209. c	210. a	211. b	212. a	213. c	214. d
215. b	216. b	217. a	218. a	219. c	220. c	221. b	222. a		

Induction of Labour — Explanations

B. PIH at term

When the risks of continuation of pregnancy either to the mother or to the fetus is more, induction is indicated

Indications for induction of Labor

- Pre-eclampsia, eclampsia(hypertensive disorders in pregnancy)
- Maternal medical complications -Diabetes mellitus, Chronic renal disease Cholestasis of pregnancy n Postmaturityn Abruptio placentae
- Intrauterine Growth Restriction (IUGR)
- Rh-immunization
- Premature rupture of membranes
- Fetus with a major congenital anomaly or Intrauterine death of the fetus
- Oligohydramnios, polyhydramnios n
- While induction is contraindicated in Plcenta previa, heart disease at term and breech presentation

(Ref Dutta text book of obstetrics)

C. Heart disease

Induction of Labour can be done in heart disease but spontaneous onset of labour is preferred in heart disease as labour is a state of hyperdynamic circulation which increases load on heart

D. Interspinal diameter

Bishops score include Effacement, dilatation , consistency , position of cervix and station of head Bishop score ≥ 6 is favorable. Dilatation of the cervix is most important.

D. Unraptured membranes

All the options given in the question are features of obstructed labor except unraptured membranes. In case of obstructed labor, membranes are ruptured, vagina is hot and dry and there is foul smelling discharge.

C. VVF

M/C cause of VVF in developing countries is obstructed labor.

M/C fistula seen in obstructed labor in VVF.

A. Upper uterine segment

B. 18 kg to 20 kg

A. 90 secs

C. Perform sterile per speculum examination

The first step in the management is to perform a sterile speculum examination.

D. Perform a white cell count

B. Vaginal swab culture

The patient is having uterine contractions at 35 weeks of pregnancy.

216.

B. It is alkaline

217.

A. Postpartum hemorrhage

Post dated/post term/ post maturity are pregnancies which have completed 42 weeks or 294 days as calculated from the first day of the LMP, assuring dates are correct.

218.

A. PG F2 a tablet

(Ref Dutta text book of obstetrics)

Induction – pharmacological method :

1. Prostaglandins (PGs) – Dinoprostone (PGE2): Gel, tablet, suppository
2. Misoprostol (PGE1): Tablets
3. Oxytocin
4. Progesterone receptor antagonist – mifepristone RU486
5. RELAXIN
6. Hyaluronic acid
7. Estrogen

hence we can say all except PGF2 can be used for induction of labour

219.

C. Progesterone

Progesterone receptor antagonist are used for induction and not progesterone itself

220.

C. Abdominal amniocentesis followed by stabilizing oxytocin drip

Following procedures may be done for induction in hydramnios- Amniocentesis → drainage of good amount of liquor → to check the favorable lie and presentation of the fetus → a stabilizing oxytocin infusion is started → low rupture of the membranes is done when the lie becomes stable and the presenting part gets fixed to the pelvis.

This will minimize sudden decompression with separation of the placenta, change in the lie of the fetus and cord prolapse.

221.

B. Prostaglandin tablet

Prostaglandin tablet that is PGE1 (misoprost) should not be used for induction of labour in patient with previous LSCS because because the risk of rupture is high (Ref : Dutta text book of obstetrics/8th edition/580)

Other methods like dinoprost gel/stripping of membranes/oxytocin drip can be used for induction in previous LSCS

222.

A. H/O previous LSCs due to malpresentation

Trial of scar is contraindicated in all patient of CPD as cephalo pelvic disproportion will be always present in consecutive pregnancies

In previous classical CS and previous 3 LCs trial of labour is not given as it increases chances of scar dehiscence

While Option A h/o previous LSCS due to malpresentation is not a contraindication as it is not seen in subsequent pregnancies

Postpartum Period — Questions

223. Postpartum decidual secretions present are referred to as:
 A. Lochia
 B. Bleeding per vaginum
 C. Vasa-previa
 D. Decidua-capsularis
224. Lochia in correct order: during puerperium
 A. Rubra. Serosa, alba
 B. Serosa, rubra, alba
 C. Alba, serosa, rubra
 D. Alba, mucosa, serosa
225. Likely size of uterus at 8 weeks post partum is:
 A. 100 gm
 B. 500 gm
 C. 700 gm
 D. 900 gm
226. Initiation of lactation is affected by: (PGI)
 A. Oxytocin
 B. Prolactin
 C. HPL
 D. Thyroid hormone
 E. Progesterone
227. Contraceptive method of choice in lactating mothers is:
228. The uterus becomes pelvic organ after delivery in:
 A. 10 to 12 days
 B. 12 to 14 days
 C. 14 to 16 days
 D. 16 to 18 days
 E. 18 to 20 days
229. Without breast feeding the first menstrual flow usually begins-weeks after delivery:
 A. 2-4 weeks
 B. 4-6 weeks
 C. 6-8 weeks
 D. 8-10 weeks
230. Common route of spread of puerperal sepsis;
 a. Lymphatic
 b. Direct invasion
 c. Skip lesion
 d. Hematogenous
231. Most common immunoglobulin secreted by mother in milk and colostrums is:
 A. IgA
 B. IgG
 C. IgE
 D. IgD

223. a	224. a	225. a	226. a, b, e	227. b	228. a
229. c	230. b	231. a			

Postpartum Period — Explanations

A. Lochia

223. Option A - Lochia is the vaginal discharge for the first fortnight during puerperium. The discharge originates from the uterine body, cervix and vagina. Option B- bleeding per vaginum can be because of many reasons can be present during pregnancy and in post partum period but the reddish discharge post puerperium is Lochia rubra consists of blood, shreds of fetal membranes and decidua, vernix caseosa, lanugo and meconium.
- Option C- fetal vessels may run across the internal os in velamentous insertion giving rise to vasa previa, which may rupture along with rupture of the membranes, hence origin of bleeding here is umbilical cord blood
- Option D Decidua capsularis or reflexa is the thin superficial compact layer covering the blastocyst.

A. Rubra. Serosa, alba

Depending upon the variation of the color of the discharge, it is named as: (1) lochia rubra (red) 1-4 days, (2) lochia serosa (5-9 days) — the color is yellowish or pink or pale brownish, (3) lochia alba — (pale white) — 10-15 days

A. 100 gm

Uterus weighs approximately 500g by 1 week postpartum, about 300g by 2 weeks, and at 4 weeks, involution is complete and the uterus weighs approximately 100g. After each successive delivery, the uterus is usually slightly larger than before the most recent pregnancy.

(Ref Williams textbook of obstetrics)

A. Oxytocin, B. Prolactin and E. Progesterone

Lactation is affected by following hormones:

- Oxytocin is the major galactokinetic hormone, it is liberated from the posterior pituitary, produces contraction of the myoepithelial cells of the alveoli and the ducts containing the milk hence causes ejection of milk
- Prolactin- When the estrogen and progesterone are withdrawn following delivery, prolactin begins its milk secretory activity in previously fully developed mammary glands. Prolactin, insulin, growth hormone and glucocorticoids are the important hormones in this stage.

B. Progesterone only pills

227. POP'S have no adverse effect on lactation and hence can be suitably prescribed in lactating women and as such it is often called "Lactation pill (contraception of choice in lactating mothers)", it is due to lack of estrogen component
- Oral contraceptive pills affect lactation by reduction in the milk production and also by alteration of the quality of the milk (reduction of protein and fat content). Moreover, significant amount of the steroids are ingested by the infant hence not advised in lactation
- Barrier methods and lactation amorrhea have high failure rate hence not method of choice (Ref Dutta text book of obstetrics)

A. 10 to 12 days

228. During the first 24 hours, the level remains constant; thereafter, there is a steady decrease in height by 1.25 cm (0.5") in 24 hours, so that by the end of 2nd week the uterus becomes a pelvic organ

C. 6-8 weeks d

229. If woman does not breastfeed her baby, menstruation returns by 12th week following delivery in 80% of cases. The meantime for onset of first menstruation is 7 - 9 weeks. In nonlactating mothers, ovulation may occur as early as 4 weeks and in lactating mothers about 10 weeks after delivery. Duration of anovulation depends upon the frequency (>8/24 hours), intensity and duration of breastfeeding. The physiological basis of anovulation and amenorrhea is due to elevated levels of serum prolactin associated with suckling.

(Ref Dutta text book of obstetrics)

B. Direct invasion

A. IgA

MILK secreted in first 2 days by mother is known as colostrum. It contains fat globules, colostrum corpuscles and acinar epithelial cells. The colostrum corpuscles are large polynuclear leukocytes, oval or round in shape containing numerous fat globules. Colostrum contains immunologic components such as immunoglobulin A (IgA), complements, macrophages, lymphocytes, lactoferrin and other enzymes (lactoperoxidase).

Abortions — Questions

232. Most common cause of first trimester abortion is:
 A. Chromosomal abnormalities
 B. Syphilis
 C. Rhesus isoimmunization
 D. Cervical incompetence
233. MC cause of abortion in first trimester is, defect in:
 A. Placenta
 B. Uterus
 C. Embryo
 D. Ovarian
234. All of the following are known causes of recurrent abortion except:
 A. TORCH infections
 B. SLE
 C. Rh incompatibility
 D. Syphilis
235. A woman with 20 weeks pregnancy presents with bleeding per vagium. On speculum examination the os is open but no products have come out. The diagnosis is:
 A. Missed abortion
 B. Incomplete abortion
 C. Inevitable abortion
 D. Complete abortion
236. A women with H/o recurrent abortions presents with isolated increases in APTT. Most likely cause is:
 A. Lupus anticoagulant
 B. Factor VII
 C. Von willebrand's disease
 D. Hemophilia A
237. Cervical incompetence is characterized by: (PGI TYPE)
 A. 1st trimester abortion
 B. 2nd trimester abortion
 C. Premature rupture of membrane
 D. Circlege operation done
238. Mcdonalds stitch is applied in the following conditions except:
 A. Incompetent os
 B. Septate uterus
 C. Placenta previa
 D. Bad obstetrical history
239. All of the following drugs have been used for medical abortion except:
 A. Mifepristone
 B. Misoprostol
 C. Methotrexate
 D. Atosiban
240. According to MTP act, 2 doctor's opinion is required when pregnancy is:
 A. Oxytocin
 B. Prostaglandin
 C. Ethacridil
 D. Hypertonic agensis
241. For medical termination of pregnancy, consent should be obtained from?
 A. The male partner
 B. The male as well as the female partner
 C. The female partner
 D. Consent is not required
242. Blighted ovum is characterised by:
 A. Synaptic knobs
 B. Avascular villi
 C. Intervillous hemorrhage
 D. None
243. Pregnancy which continues following threatened abortion is likely to have increased incidence of:
 A. Preterm labour
 B. Fetal malformation
 C. IUGR
 D. All of the above
244. The best method of evacuation of a missed abortion in uterus of more than 12 weeks:
 A. Oxytocin infusion
 B. Intramuscular prostaglandin (15 methyl PGF 2a)
 C. Prostaglandin E1 vaginal misoprostol followed by evacuation of the uterus
 D. Suction evacuation
245. Suction evacuation can be done up to:
 A. 6 weeks
 B. 10 weeks
 C. 15 weeks
 D. 18 weeks
246. The method most suitable for MTP in 3rd month of pregnancy is:
 A. Dilatation
 B. Extra amniotic ethacrydine
 C. Hysterectomy
 D. Suction and evacuation
247. Levels of progesterone indicating unviable pregnancy and viable intrauterine pregnancy are:
 A. 5 ng/mL; 20 ng/mL
 B. 105 ng/mL; 20 ng/mL
 C. 5 ng/mL; 50 ng/mL
 D. 10 ng/mL; 50 ng/mL
248. Best method for MTP in 2nd trimester abortion:
 A. Oxytocin
 B. Prostaglandin
 C. Ethacridil
 D. Hypertonic agensis

232. a	233. c	234. a	235. c	236. a	237. b,c,d	238. c	239. d	240. c	241. c
242. b	243. d	244. c	245. b	246. d	247. a	248. b			

Abortions — Explanations

A. Chromosomal abnormalities

132. (Ref Dutta text book of obstetrics)

Majority (50%) of early miscarriages are due to chromosomal abnormality in the conceptus. Autosomal trisomy is the commonest (50%) cytogenetic abnormality.

C. Embryo

133. Most common cause is chromosomal anomaly which apparently causes defect in embryo (refer to ans 114)

A. TORCH infections

134. TORCH – infections of genital tract mostly causes spontaneous abortions and not recurrent abortion. Recurrent miscarriage is defined as a sequence of three or more consecutive spontaneous abortion before 20 weeks

Causes:

- Parental chromosomal abnormalities is a proven cause of recurrent abortion. The most common abnormality is a balanced translocation
- Poorly controlled diabetic, Presence of thyroid autoantibodies, Luteal phase defect (LPD), and polycystic ovary syndrome (PCOS) are some of metabolic causes
- Infection—Syphilis, toxoplasmosis and listeriosis may be responsible in some cases
- Hemoglobinopathies, chronic renal disease. Inflammatory bowel disease, systemic lupus erythematosus are some of causes of 2nd trimester abortion
- Anatomical causes
- Immunological- Presence of autoantibodies causes rejection of early pregnancy (15%) in the second trimesters mainly- causes presence of antiphospholipid antibodies, rh incompatibility

C. Inevitable abortion

135. INEVITABLE ABORTION- Vaginal bleeding present, on p/s- Open with palpable conceptus
MISSED ABORTION- Vaginal bleeding—trace, brownish in color, on p/s -os closed
INCOMPLETE ABORTION- Vaginal bleeding (may be heavy), on p/s-os open with n Products of conception partly retained inside on usg
COMPLETE ABORTION- Vaginal bleeding—trace or absent, on p/s- os closed and urine cavity is empty on usg

236. A. Lupus anticoagulant

237. B. 2nd trimester abortion, C. Premature rupture of membrane, D. Circilage operation done
Repeated midtrimester (2nd trimester) painless cervical dilatation (without apparent cause) and escape of liquor amnii (premature rupture of membrane) followed by painless expulsion of the products of conception are very much suggestive of cervical incompetence
Treatment is – circlage operation - Two types of

operation are in current use. The operations are named after Shirodkar (1955) and McDonald (1963).

C. Placenta previa

238. In mcdonalds stitch- The nonabsorbable suture (Mersilene) material is placed as a purse-string suture as high as possible (level of internal os) at the junction of the rugose vaginal epithelium and the smooth vaginal part of the cervix below the level of the bladder.

Since the sutures are applied at the level of internal os hence not applied in placenta previa
Other Contraindications: (i) Intrauterine infection. (ii) Ruptured membranes. (iii) Presence of vaginal bleeding(also seen in placenta previa). (iv) Severe uterine irritability. (v) Cervical dilatation greater than 4 cm. (vi) Fetal death or defect

D. Atosiban

Drugs used in MTP are:

1st trimester

- Mifepristone
- Mifepristone and misoprostol (PGE1)
- Methotrexate and misoprostol
- Tamoxifen and misoprostol
- 2nd trimester
- PGF2α (Carboprost), PGE2 (Dinoprostone) and their analogs (used—intravaginally, intramuscularly or intraamniotically)
- Oxytocin

C. 12 weeks

240. Termination is permitted up to 20 weeks of pregnancy. When the pregnancy exceeds 12 weeks, opinion of two medical practitioners is required.

(Ref Dutta textbook of obstetrics)

C. The female partner

241. Pregnancy can only be terminated on the written consent of the woman. Husband's consent is not mandatory.

Pregnancy in a minor girl (below the age of 18 years) or lunatic cannot be terminated without written consent of the parents or legal guardian.

(Ref Dutta textbook of obstetrics)

B. Avascular villi

242. A blighted ovum is evidenced by loss of definition of the gestation sac, smaller mean gestational sac diameter, absent fetal echoes and absent fetal cardiac movements
It is an anembryonic miscarriage contains no identifiable embryonic elements

D. All of the above

243. If the pregnancy continues in threatened abortion, there is increased frequency of

- Preterm labor
- Placenta previa
- Intrauterine growth restriction of the fetus and fetal anomalies.



(d) Dilatation and evacuation is done once the cervix becomes soft with use of PGE1

(Ref Dutta textbook of obstetrics)

244. C. Prostaglandin E1 vaginal misoprostol followed by evacuation of the uterus

Uterus more than 12 weeks: Induction is done by the following methods: Prostaglandins are more effective than oxytocin in such cases.

The methods used are:

(a) Prostaglandin E1 analog (misoprostol) 200 µg tablet is inserted into the posterior vaginal fornix every 4 hours for a maximum of 5 such.

(b) Oxytocin—10–20 units of oxytocin in 500 mL of normal saline at 30 drops/min is started. If fails, escalating dose of oxytocin to the maximum of 200 mIU/min may be used with monitoring.

(c) Many patients need surgical evacuation following medical treatment ultrasonography should be done to document empty uterine cavity. Otherwise evacuation of the retained products of conception (ERPC) should be done.

245. B. 10 weeks

The method is not suitable with bigger size uterus of more than 12 weeks as chance of retained products is more.

(Ref Dutta text book of obstetrics)

246. D. Suction and evacuation

"Vacuum evacuation is the most efficient method of terminating pregnancy up to 12 weeks of gestation. It has gained rapid worldwide acceptance"

247. A. 5 ng/mL; 20 ng/mL

Serum progesterone concentration <5 ng/mL suggest a dying pregnancy and 20 ng/mL support the diagnosis of a healthy pregnancy.

248. B. Prostaglandin

Ectopic Pregnancy — Questions

- 249.** Causes of ectopic pregnancy includes A/E:
 A. IUCD
 B. Tubal ciliary damage
 C. Blighted ovum
 D. Late fertilization
- 250.** Ectopic pregnancy is most commonly associated with:
 A. Endometriosis
 B. Congenital tubal anomalies
 C. Tuberculosis
 D. Tubal inflammatory diseases
- 251.** In which part of fallopian tube ectopic pregnancy will have longest survival:
 A. Isthmus
 B. Ampulla
 C. Cornua
 D. Interstitium
- 252.** The cause of fetal death in ectopic pregnancy is postulated as:
 A. Vascular accident
 B. Nutritional adequacy
 C. Endocrine insufficiency
 D. Immune response to mother
- 253.** In ectopic pregnancy deciduas is shed as:
 A. Decidua vera
 B. Decidua basalis
 C. Decidua capsularis
 D. Decidua rubra
- 254.** Modern diagnostic aid to diagnose ectopic pregnancy: (PGI TYPE)
 A. HCG
 B. Transvaginal USG
 C. AFP
 D. Gravindex
- 255.** AG2P1 to female has a history of previous preterm birth at 32 weeks. The percentage chances of preterm birth in this pregnancy are:
 A. 5%
 B. 10%
 C. 15%
 D. 25%
- 256.** Indications of medical management in ectopic pregnancy:
 A. Presence of fetal heart activity
 B. Size >4cms
 C. Gestation <6weeks
 D. beta hcg >5000
- 257.** A twenty years old woman has been brought to casualty with BP 70/40 mm Hg. Pulse rate 120/min. and a positive urine pregnancy test. She should be managed by:
 A. Immediate laparotomy
 B. Laparoscopy
 C. Culdocentesis
 D. Resuscitation and Medical management
- 258.** Which of the following treatment is not done in ectopic pregnancy:
 A. Salpingectomy
 B. Salpingo-oophorectomy
 C. Salpingostomy
 D. Resection of involved segment
- 259.** In a nulliparous woman, the treatment of choice in ruptured ectopic pregnancy is:
- 260.** Not true about ectopic pregnancy:
 A. Previous ectopic is greatest risk
 B. Pregestorone only pills doesn't increase risk
 C. Increased risk with pelvic infections
 D. Increased risk with IVF
 E. IUCD use increased he risk
- 261.** A female presents with 8 weeks amenorrhea with pain left lower abdomen. On USG, there was thick endometrium with mass in lateral adnexa. Most probable diagnosis:
 A. Ectopic pregnancy
 B. Torsion of dermoid cyst
 C. Tubo-ovarian mass
 D. Hydrosalpinx
- 262.** Test not useful in case of tubal pregnancy:
 A. Pelvic examination
 B. USG
 C. HCG
 D. Hysterosalpinography
- 263.** Arias stella reaction is not seen in:
 A. Ovarian pregnancy
 B. Molar pregnancy
 C. Interstitial pregnancy
 D. Salpingitis isthmica nodosa
- 264.** What is the treatment of choice of unruptured tubal pregnancy with serum b-hCG titre 2000 IU/ml:
 A. Single dose of methotrexate
 B. Vairable dose of methotrexate
 C. Expectant management
 D. Laparoscopic salpingostomy
- 265.** Diagnostic criteria for primary abdominal pregnancy:
 A. Spiegelberg criteria
 B. Rubin's criteria
 C. Studdiford criteria
 D. Wrigly criteria
- 266.** Angular pregnancy refers to:
 A. Etopic pregnancy of interstitial part of FT
 B. Intrauterine pregnancy
 C. Heterotrophic pregnancy
 D. Ectopic pregnancy of brosd ligament
- 267.** You are called to the operating room. The general Surgeons have operated on a woman to rule out appendicitis and the signs of an abdominal pregnancy with an 18 week fetus and placenta attached to the omentum. The best course of action in the case is:
 A. Removal of both fetus and placenta
 B. Laparoscopic ligation of umbilical cord
 C. Removal of the fetus only
 D. Closely follow until viability and the deliver by laparotomy

249. c	250. d	251. d	252. a	253. a	254. a,b	255. c	256. c	257. a	258. b
259. a	260. b	261. a	262. d	263. d	264. a	265. c	266. b	267. c	

Ectopic Pregnancy — Explanations

249. C. Blighted ovum

CAUSES OF ECTOPIC :

- Contraception failure- IUCD , Sterilisation operation, progesterone only pills
- Tubal surgery
- Intrapelvic adhesions
- ART
- Previous ectopic pregnancy: There is 10–15% chances of repeat ectopic pregnancy. t
- Prior induced abortion significantly increases the risk. t Developmental defects of the tube: (a) Elongation. (b) Diverticulum. (c) Accessory ostia.
- Transperitoneal migration of the ovum
- BLIGHTED OVUM is A blighted ovum is evidenced by loss of definition of the gestation sac, smaller mean gestational sac diameter, absent fetal echoes and absent fetal cardiac movements
- It is an anembryonic miscarriage contains no identifiable embryonic elements
- Hence cannot be seen in ectopic pregnancy

250. D. Tubal inflammatory diseases

Highest risk of ectopic- history of previous ectopic > tubal surgery > PID (including tubal inflammatory diseases) > cervicitis> infertility> h/o multiple sexual partners > ART > smoking

Among the given options best answer is option D

251.

D. Interstitium

Interstitial ectopic has longest survival (12 weeks) as it is well supported by muscles

Mc site for **tubal abortion** – **ampullary ectopic**

Mc site for rupture – isthmus (6 weeks)

Least common site for rupture- fimbrial

252.

A. Vascular accident

In ectopic pregnancy blood vessels are eroded by the chorionic villi and blood accumulates in between the blastocyst and the serous coat. The tube on the implantation site is distended and the wall is thinned out. Blood may spill from the fimbriated end and may cause hemoperitoneum so we can say in ectopic vascular accidents are cause of fetal death rather than nutritional / endocrine or immune involvement

253.

A. Decidua vera

Decidua vera is the decidua lining the uterine cavity outside the site of implantation. The decidua develops all the characteristics of intrauterine pregnancy except that it contains no evidence of chorionic villi. When progesterone level falls due to fall in the level of hCG, endometrial growth is no longer maintained. Endometrium sloughs out causing uterine bleeding. Sometimes entire decidua is expelled as a single piece through the cervix. This is known as decidual cast that may be confused with a spontaneous abortion

Decidua capsularis or reflexa — the thin superficial compact layer covering the blastocyst

Decidua basalis or serotina — the portion of the decidua in contact with the base of the blastocyst

In ectopic the decidua shed is decidua vera.

254. A. HCG and B. Transvaginal USG

Investigations for the diagnosis of tubal ectopic pregnancy

- Blood examination should be done as a routine for: (i) Hemoglobin. (ii) ABO and Rh grouping. (iii) Total white cell count and differential count. (iv) Erythrocyte sedimentation rate (ESR). There may be varying degrees of leukocytosis and raised ESR.
- Culdocentesis
- Estimation of b-hCG: Urine pregnancy test- ELISA is sensitive to 10-50 mIU/mL and is positive in 95% of ectopic pregnancies
- Transvaginal sonography (TVS)
- Combination of quantitative b-hCG values and sonography
- Laparoscopy laparotomy and D&C can also be considered as diagnostic modality

255. C. 15%

There is an increased incidence of preterm labor in cases such as- Previous history of induced or spontaneous abortion or preterm delivery. prevalence widely varies and ranges between 10%-15%

(Ref Dutta textbook of obstetrics)

256. C. Gestation <6weeks

INDICATION FOR MEDICAL MANAGEMENT ARE:

- Hcg value < 5000 IU
- Sac on usg <3.5cm or 4cm
- Absent cardiac activity
- Gestation < 6 weeks

For medical management injection methotrexate is given 50mg/m² or 1mg/kg I/n

257.

A. Immediate laparotomy

Indication for surgical management is :

1. Unstable patient
2. Failed methotrexate
3. Criteria for medical management not met
4. Ruptured ectopic
5. Family is complete

Ideally laparoscopy > laparotomy But if patient is with with unstable vitals- we do LAPROTOMY

258.

B. Salpingo-oophorectomy

Surgical procedures commonly done in tubal ectopic are:

1. Salpingostomy
2. Salpingectomy
3. Resection of involved segment
4. Fimbrial expression



5. Laparotomy

Salpingo-oophorectomy is — definite surgery in ovarian pregnancy
so answer here will be option B

A. Salpingectomy and end to end anastomosis

In nulliparous- treatment of choice is partial salpingectomy followed by reanastomosis
In multiparous- treatment is total salpingectomy

B. Pregesterone only pills doesn't increase risk
(explanation — refer to ans 129)

A. Ectopic pregnancy

At 8 weeks amenorrhoea if a patient present with pain in a particular side of abdomen and on usg if we see endometrium thinking most probably diagnosis is ECTOPIC

In ectopic — implantation commonly occur in tube which present as adnexal mass
The decidua develops all the characteristics of intrauterine pregnancy except that it contains no evidence of chorionic villi hence there is marked thickening of endometrium

D. Hysterosalpinography

Pelvic examination — p/v examination on which tenderness along with presence of adnexal mass helps in diagnosis of ectopic pregnancy
Investigations for the diagnosis of tubal ectopic pregnancy

- Blood examination should be done as a routine for: (i) Hemoglobin. (ii) ABO and Rh grouping. (iii) Total white cell count and differential count. (iv) Erythrocyte sedimentation rate (ESR). There may be varying degrees of leukocytosis and raised ESR.

- Culdocentesis
- Estimation of b-hCG: Urine pregnancy test— ELISA is sensitive to 10-50 mIU/mL and is positive in 95% of ectopic pregnancies
- Transvaginal sonography (TVS)
- Combination of quantitative b-hCG values and sonography

- Laparoscopy laparotomy and D&C can also be considered as diagnostic modality
- Hysterosalpingography is not used in diagnosis of ectopic

263. D. Salpingitis isthmica nodosa

Arias-Stella reaction: This is characterized by a typical adenomatous change of the endometrial glands. This is strikingly due to progesterone influence. It is present in about 10– 15% cases of ectopic pregnancy. It is not, however, specific for ectopic pregnancy but rather the blighting of conceptus either intrauterine or extrauterine.

So can be seen in **ovarian pregnancy, molar pregnancy and interstitial pregnancy** but not in sakphingitis isthmica nodosa

264. A. Single dose of methotrexate

Indication For Medical Management Are:

- Hcg value < 5000 IU
- Sac on usg < 3.5cm or 4cm
- absent cardiac activity
- Gestation < 6 weeks

For medical management injection methotrexate is given 50mg/m²

Here all criterias are fit for medical management so answer is option A

265. C. Studdiford criteria

For abdominal pregnancy — studiford criteria (only pain; no bleeding) treatment — laparotomy — cut the cord — deliver baby and leave placenta inside for autolytic digestion

For ovarian pregnancy — Speigelberg criteria

For cervical ectopic- palman's criteria, Rubina criteria

266. B. Intrauterine pregnancy

Angular pregnancy is defined as pregnancy implanted in one of the lateral angles of the uterine cavity. Unlike an interatitil pregnancy, which implants in the intramural part of fallopian tube, an Angular pregnancy can progress to term.

267. C. Removal of the fetus only

Molar Pregnancy — Questions

268. Complete H. Mole are: (PGI)

- A. Triploid
- B. Diploid
- C. Increased B-HCG

- D. 4% cases may convert to carcinoma
- E. Chances of malignant conversion less than partial mole

269. False about partial mole

- A. Caused by triploidy
- B. Can be diagnosed very early by USG
- C. Can present as missed abortion
- D. Rarely causes persistent GTD

270. Snow storm appearance on USG is seen in:

- A. Hydatidiform mole
- B. Ectopic pregnancy
- C. Anencephaly
- D. None of the above

271. Treatment of the lutein cyst in hydatiform mole is:

- A. Ovarian cystectomy
- B. Ovariectomy
- C. Suction evacuation
- D. Radio-Chemotherapy

272. Bad prognostic markers of Choriocarcinoma treatment are: (PGI)

- A. Liver metastasis
- B. Lung metastasis
- C. Previous H. mole
- D. High H.C.G litre
- E. Chemotherapy started 12 months after pregnancy

273. A case of Gestational trophoblastic neoplasia is detected to have lung metastasis. She should be staged as:

- A. Stage-I
- B. Stage-II
- C. Stage-III
- D. Stage-IV

274. Choriocarcinoma commonly metastasize to: (PGI TYPE)

- A. Brain
- B. Lung
- C. Vagina
- E. Cervix

275. 35 years old female with choriocarcinoma treatment of choice is:

- A. Dilatation and evacuation
- B. Radiotherapy
- C. Hysterectomy
- D. Chemotherapy

276. The ideal treatment for metastatic choriocarcinoma in the lungs in a young women is:

- A. Chemotherapy
- B. Surgery with radiation
- C. Surgery
- D. Wait and watch

277. Molar pregnancy is diagnosed in:

- A. I trimester
- B. II trimester
- C. III trimester
- D. All of the above

278. Hydatidiform-mole is characterized histologically by:

- A. Hyaline membrane degeneration
- B. Hydropic degeneration of the vilous stroma
- C. Non proliferation of cytotrophoblast
- D. Non proliferation of syncytiotrophoblast

279. Hydatidiform mole is principally a disease of:

- A. Amnion
- B. Chorion
- C. Uterus
- D. Decidua

280. Percentage of complete moles progressing to persistent GTN:

- A. 1-4%
- B. 4-8%
- C. 8-12%
- D. 15-20%

281. Choriocarcinoma is differentiated from invasive mole (chorio-adenoma destruens) by:

- A. Presence of high titre of urinary chorionic gonadotrophin
- B. Presence of cann ball shadow in the lungs
- C. Absence of villi structure on histological examination of the lesion
- D. All of the above

282. True regarding partial mole:

- A. It has more chances of malignancy
- B. Cellular atypia seen
- C. Trophoblastic proliferation with no villi
- D. Triploid on tetraploid

283. Prophylactic chemotherapy in hydatidiform mole should preferably be given:

- A. Prior to evacuation as a routine
- B. Following evacuation as a routine
- C. Selected cases following evacuation
- D. As a routine 6 weeks postevacuation

284. The advantages of hysterectomy in molar pregnancy are:

- A. Chance of choriocarcinoma becomes nil
- B. Follow up is not required
- C. Enlarged ovaries can be removed during operation
- D. Chance of pulmonary embolisation is minimal

285. Risk of occurrence of H mole in future pregnancy is:

- A. 1-4%
- B. 4-8%
- C. 8-10%
- D. 10-12%

286. The criteria for diagnosing GTN are all except:

- A. Persistently increasing -hCG for 3 weeks
- B. Plateau levels of -hCG for 4 weeks
- C. Theca lutein cyst 6cm
- D. Histological criteria for choriocarcinoma

287. Most important prognostic marker for Gestational trophoblastic neoplasia:

- A. Number of metastasis
- B. Site of metastasis
- C. β -hCG levels
- D. Stage of tumor

268. b,c,d	269. b	270. a	271. c	272. a,d,e	273. c	274. b,c	275. d	276. a	277. a
278. b	279. b	280. d	281. c	282. d	283. c	284. d	285. a	286. c	287. c

Molar Pregnancy — Explanations

B. Diploid, C. Increased B-HCG and D. 4% cases may convert to carcinoma

Features of complete H mole

- Diploid
- Monospermic
- All genetic material- paternal
- 46XX (monospermic-80%) 46XY (dispermic-20%)
- Beta hcg is highly elevated(>50,000) in complete mole as compared to partial mole
- Theca luteal cyst is common in complete H mole
- 4% may convert to choriocarcinoma from complete mole as compared to <1% from partial mole

B. Can be diagnosed very early by USG

Partial mole :

- Triploidy
- 69XXY – 90% are triploid and 10% tetraploid
- 2 sperms – extraset of chromosome always paternal
- Causes GTN in less than 5 % of cases
- The clinical picture does not differ markedly from complete mole and too often confused with threatened or missed abortion
- It cannot be diagnosed in early period by USG

A. Hydatidiform mole

Characteristic feature of molar pregnancy on USG is "snowstorm" appearance
(Ref Dutta textbook of obstetrics)

C. Suction evacuation

The enlarged ovaries (theca lutein cysts) found during operation should be left undisturbed as they will regress following removal of mole(which is commonly done by using SUCTION EVACUATION). But, if complication arises, like torsion, rupture or infarction, they should be removed.
(Ref Dutta text book of obstetrics)

A. Liver metastasis, D. High H.C.G litre and E. Chemotherapy started 12 months after pregnancy

Bad prognostic markers for GTN are :

- Age > 40 years
- Hcg >10⁵
- Fundal height>POG
- Size of tumor>5cm
- No. of metastasis>8
- Metastasis to liver and brain are poor prognostic marker while that to lungs and vagina are of good prognosis
- Duration from antecent pregnancy if >12 months holds worst prognosis while <4months is of good prognosis

273.

C. Stage-III

Staging

Stage I- Limited to uterus
Stage II- outside it within pelvis
Stage III- metastasis to lungs
Stage IV- metastasis else where
Hence answer here is Stage III

274.

B. Lung & C. Vagina

Choriocarcinoma commonly metastasize to lungs and vagina which holds good prognosis while metastasis to liver and brain shows poor prognosis

275.

D. Chemotherapy

Patients are classified into low- or high-risk categories (WHO Prognostic Score. Low-risk group receives single-agent chemotherapy (usually methotrexate). High-risk group receives combination chemotherapy [usually etoposide, methotrexate, actinomycin D, cyclophosphamide and vincristine (EMA-CO)].
(Ref Dutta textbook of obstetrics)

276.

A. Chemotherapy

Patients are classified into low- or high-risk categories (WHO Prognostic Score. Low-risk group receives single-agent chemotherapy (usually methotrexate). High-risk group receives combination chemotherapy [usually etoposide, methotrexate, actinomycin D, cyclophosphamide and vincristine (EMA-CO)].
Surgery is justified in women approaching 40 and/or who has completed her family. Following hysterectomy or chemotherapy, regular follow-up is essential
(Ref: Dutta textbook of obstetrics)

277.

A. I trimester

These days routine 1st trimester ultrasound is done and molar preg is picked up earlier

278.

B. Hydropic degeneration of the vilous stroma

Hydatidiform mole is an abnormal condition of the placenta where there are partly degenerative and partly proliferative changes in the young chorionic villi. These result in the formation of clusters of small cysts of varying sizes. Because of its superficial resemblance to hydatid cyst, it is named as hydatidiform mole. It is best regarded as a benign neoplasia of the chorion with malignant potential
(Ref Dutta textbook of obstetrics)

279.

B. Chorion

Hydatidiform mole is an abnormal condition of the placenta where there are partly degenerative and partly proliferative changes in the young chorionic villi. These result in the formation of clusters of small cysts of varying sizes. Because of its superficial resemblance to hydatid cyst, it is named as hydatidiform mole. It is best regarded as a benign neoplasia of the chorion with malignant potential
(Ref Dutta textbook of obstetrics)

C. Selected cases following evacuation

Ref. Dutta Obs.7

- 280. D. 15-20%**
- % of complete mole progressing to persistent GTN is 15-20%
 - % of partial mole progressing to persistent GTN is 3-5%
 - % of complete mole progressing to choriocarcinoma is 4%
 - % of partial mole progressing to choriocarcinoma is 1%
 - (Ref Dutta textbook of obstetrics)

281. C. Absence of villi structure on histological examination of the lesion

Choriocarcinoma consists of sheets of anaplastic cytotrophoblast and syncytiotrophoblast without chorionic villi. Extensive necrosis Haemorrhage and vascular invasion are common

282. D. Triploid on tetraploid

Partial mole has less chances of malignancy. In molar pregnancy villi are present and villi pattern is maintained but there are no blood vessels in the villi. Partial mole is generally (90% cases) triploid but in 10% cases it can be tetraploid or mosaic also.

283.

284.

285.

286.

287.

D. Chance of pulmonary embolisation is minimal

Hysterectomy when performed in molar pregnancy significantly decreases the chances of developing choriocarcinoma (by 5 fold times) but does not make it nil and hence follow up is required.

A. 1-4%

C. Theca lutein cysts 6cm Criteria for diagnosis of postmolar GTN

- When 4 consecutive hCG values are plateau D_{11} , D_{14} , D_{21} (10% of previous value)
- 3 β consecutive hCG values are rising ($> 10\%$ of previous value) D_{11} , D_{14} , D_{21}
- β -hCG level remain above normal even after 6 months of evacuation
- Histological criteria for choriocarcinoma.

C. β -hCG levels

Most important prognostic marker for Gestational trophoblastic neoplasia is Gestational trophoblastic neoplasia β -hCG levels

288.

289.

290.

291.

292.

293.

294.

295.

288

298

Placenta Previa — Questions

288. Placenta previa is associated with all of the following except:
 A. Large placenta
 B. Previous C. S. scar
 C. Primigravida
 D. Previous placenta previa
289. Regimen followed in expectant management of placenta previa:
 A. Liley's method
 B. Crede's method
 C. Macafee and Johnson regime
 D. Brandt-Andrews method
290. Expectant management of placenta previa includes all except
 A. Anti D
 B. Cervical encirclage
 C. Blood transfusion
 D. Sterioids
291. A primigravida at 37 week of gestation reported to labour room with central placenta previa with heavy bleeding per vaginum. The fetal heart rate was normal at the time of examination. The best management option for her is:
 A. Expectant management
 B. Cesarean section
 C. Induction and vaginal delivery
 D. Induction and forceps delivery
292. Conservative management is contraindicated in a case of placenta previa under the following situations, except:
 A. Evidence of fetal distress
 B. Fetal malformations
 C. Mother in a hemodynamically stable condition
 D. Women in labour
293. All the following are indications for termination of pregnancy in APH patient except:
 A. 37 weeks
 B. IUD
 C. Transverse lie
 D. Continuous bleeding
294. A 32 weeks pregnant woman presents with mild uterine contraction and on examination her vitals are stable and placenta previa type III is present Best m/n is:
 A. Bed rest+ Dexamethasone
 B. Bed rest+ Nifedipine and Dexamethasone
 C. Bed rest+ Sedation
 D. Immediate caesarean section
295. Commonly used grading for abruption placenta:
 A. Page
 B. Johnson
 C. Macafee
 D. Apt
296. A hypertensive pregnant woman at 34 weeks comes bleeding per vaginum and loss of fetal movement. On examination the uterus is contracted with increased uterine tone. Fetal heart sounds are absent. The most likely diagnosis is:
 A. Placenta previa
 B. Hydramnios
 C. Premature labour
 D. Abruptio placenta
297. Which of the following is true about vasa previa except?
 A. Incidence is 1: 1500
 B. Mortality rate of 20% with undiagnosed case
 C. Associated with low lying placenta
 D. Cesarean section is indicated
298. Which test differentiates maternal and fetal blood cell
 A. Apt test
 B. Kleihauer test
 C. Bubble test
 D. Lilly's test
299. Most common cause of postpartum hemorrhage is:
 A. Uterine atony
 B. Retained products
 C. Trauma
 D. Bleeding disorders
300. Atonic uterus is more common in:
 A. Cesarean section
 B. Multigravida
 C. Primigravida
 D. Breech delivery
301. All of the following are used in the treatment of postpartum hemorrhage except:
 A. Misoprostol
 B. Mifepristone
 C. Carboprost
 D. Methyl ergometrine
302. Massive PPH may warrant following interventions: (PGI TYPE)
 A. Hysterectomy
 B. Thermal Endometrial ablation
 C. Internal iliac A. ligation
 D. Balloon tamponade
 E. Uterine artery embolization
303. B lynch suture is applied on:
 A. Cervix
 B. Uterus
 C. Fallopian tube
 D. Ovaries
304. A female presents with significant blood loss due to post-partum haemorrhage (PPH). What would be the shock index (HR/systolic BP)?
 A. 0.9-0.5
 B. 0.5-0.7
 C. 0.9-1.1
 D. 1.1-1.3
305. Which one of the following is not an operation for uterine inversion:
 A. O Sullivan
 B. Haultain
 C. Spincelli
 D. Fentoni

288. c	289. c	290. b	291. b	292. c	293. c	294. b	295. a	296. d	297. b
298. b	299. a	300. b	301. b	302. a,c,d,e	303. b	304. c	305. d		

301. B. Mifepristone

Drugs used in Management:

1. Oxytocin 10 units IM or methergine 0.2 mg is given intramuscular. Carbocin, a longer acting oxytocin derivative is found (100 µg) as effective as oxytocin infusion
2. 20 units of oxytocin in 1 L of normal saline IV at the rate of 60 drops per minute
3. Trenexa is given iv 1gm infusion over 20 min followed by carboprost
4. Misoprostol 800 microgm /L is given SL

These are the drugs used in PPH hence answer here is option B

302. A. Hysterectomy, C. Internal iliac A. ligation, D. Balloon tamponade and E. Uterine artery embolization

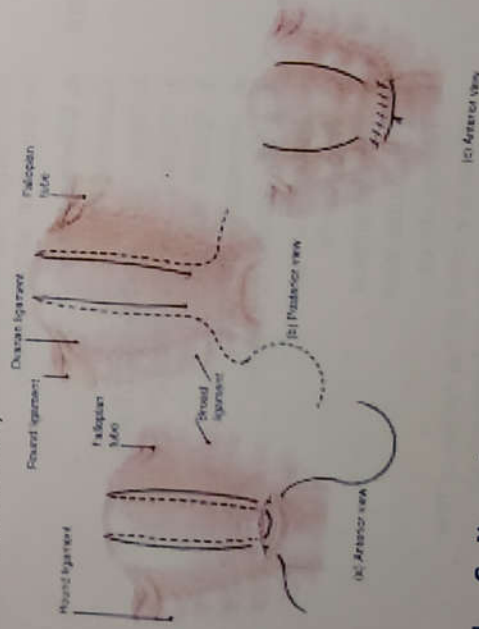
During massive PPH :

Steps mentioned in ans 184 is done if PPH is not controlled with above techniques then following steps are followed :

1. Uterine massage and bimanual compression.
2. Uterine tamponade— (a) Tight intrauterine packing (b) Balloon tamponade- Foley catheter, Bakri balloon, Condom catheter or Sengstaken-Blakemore tube is inserted into the uterine cavity and the balloon is inflated with normal saline (200–500 mL). It is kept for 4–6 hours
3. B-Lynch compression suture
4. Ligation of uterine arteries
5. Ligation of the ovarian and uterine artery anastomosis
6. Ligation of anterior division of internal iliac artery
7. Angiographic selective arterial embolization
8. Last resort is hysterectomy

303. B. Uterus

B-Lynch compression suture (1997) and multiple square sutures: Both these surgical methods work by tamponade (like bimanual compression) of the uterus. Success rate is about 80% and it can avoid hysterectomy



(C) Anterior view

304. C. Normal value of Shock Index is 0.5- 0.7 values > 0.9 Indicate immediate intervention.**305. D. Fenton's**

- During inversion - Replacement of the uterus using hydrostatic method (O'Sullivan's) under general

anesthesia is to be done along with resuscitative measures.

- Reposition may be done by abdominal operation (**Haultain's operation**).
- Spincelli operation – an operation splitting the anterior wall of prolapsed uterus in uterine inversion and reversing the organ preliminary to reduction

Hence above three surgeries are used in uterine inversion

While fenton's operation is used for episiotomy scar

306. D. Injection of PGF 2a

Atonic uterus: Step—I: (a) Massage the uterus to make it hard and express the blood clot (b) Methergine 0.2 mg is given intravenously, (c) Injection oxytocin drip is started (10 units in 500 mL of normal saline) at the rate of 40–60 drops per minute

If the uterus fails to contract, proceed to the next step. Step—II: The uterus is to be explored under general anesthesia

In refractory cases: Injection 15 methyl PGF_{2α} 250 µg IM in the deltoid muscle every 15 minutes (up to maximum of 2 mg). OR n Misoprostol (PGE₁) 1000 µg per rectum is eff ective

Followed by uterine bimanual massage, uterine packing and temponade and other surgical methods are tried after this including uterine artery embolization and b lynch sutures and at last hysterectomy is done

A. Atonic uterus

There are three phases involved in the normal expulsion of placenta: (1) Separation through the spongy layer of the decidua, (2) Descent into the lower segment and vagina, (3) Finally its expulsion to outside.

Causes are

- Placenta completely separated but retained is due to poor voluntary expulsive efforts. **The commonest cause of retention of non-separated placenta is atonic uterus.**
- Morbid adherent placenta—partial or rarely, complete.
- Placenta incarcerated following partial or complete separation due to constriction ring (hourglass contraction), premature attempts to deliver the placenta before it is separated.

(Ref Dutta textbook of obstetrics)

B. Emergency CS

Patient is presenting at 32 weeks of gestation to the emergency dept. with vaginal bleeding. She doesn't have any pain, this could be a case of placenta previa, now since there is fetal distress, we will do active management and terminate the pregnancy immediately by doing a cesarean section.

A. TVS (Ref.Williams)

TVS is the investigation of choice for detecting abnormally located placenta

B. Abruptio placenta

i.e. Abruptio = 1 in 200 deliveries
Placenta previa=1 in 300-400 deliveries
Vasa previa=1 in 2000-3000 deliveries
Placenta previa=1 in 533 deliveries

Twin Pregnancy — Questions

Most common type of twin pregnancy is:

311. A. Vertex + transverse B. Both vertex
C. Vertex + breech D. Both breech

Twin peak sign seen in:

312. A. Monochorionic diamniotic
B. Dichorionic monoamniotic
C. Conjoined twins
D. Diamniotic dichorionic
E. None of the above

Vaginal delivery is allowed in all except:

313. A. Monochorionic monoamniotic twins
B. First twin cephalic and second breech
C. Extended breech
D. Mento anterior

The placenta of twins can be:

314. A. Dichorionic and monoamniotic in dizygotic twins
B. Dichorionic and monoamniotic in dizygotic twins
C. Monochorionic and monoamniotic in dizygotic twins
D. Dichorionic diamniotic in monozygotic twins

Monochorionic monoamniotic twin occurs if division occurs:

315. A. Before 24 hours B. 1-4 days
C. 4-8 days D. >8 days

In superfecundation which of the following is seen:

316. A. Fertilization of 2 ova released at same time, by sperms released at intercourse on 2 different occasions
B. Fertilization of 2 ova released at same time by sperms released at single intercourse
C. Both
D. None

A double headed monster is known as a:

317. A. Diplopagus B. Dicrophalus
C. Craniopagus D. Heteropagus

318. Twin pregnancy predisposes to:

318. A. Hydramnios
B. Pregnancy induced hypertension
C. Malpresentation
D. All of the above

319. Indications of urgent delivery of the second baby in twin are all except:

319. A. Abruptio placentae
B. Cord prolapsed of the second baby with the use of IV ergometrine with the first baby
C. Inadvertent use of the anterior shoulder of the delivery of the second baby
D. Breech presentation of the second baby

320. Embryo reduction of multiple pregnancy is done at:

320. A. 8-10 weeks B. 11-13 weeks
C. 13-15 weeks D. 16-18 weeks

321. Complication specific to monoamniotic twins is:

321. A. TTTS B. Cord entanglement
C. TRAP D. Acardiac twin

322. Absolute proof of monozygosity is determined by:

322. A. DNA finger printing
B. Intervening membrane layers
C. Sex of the babies
D. Reciprocal skin grafting

323. Best time for detecting chorionicity twin pregnancy on USG is:

323. A. 8-12 weeks B. 10-14 weeks
C. 14-18 weeks D. 16-24 weeks

324. To say twin discordance the differences in the two twins should be:

324. A. 15% with the larger twin as index
B. 15% with the smaller twin as index
C. 25 % with the larger twin as index
D. 25 % with the smaller twin as index

311. b	312. d	313. a	314. d
321. b	322. a	323. b	324. c

315. d	316. a	317. b	318. d	319. d	320. b
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Twin Pregnancy — Explanations

311. B. Vertex + transverse

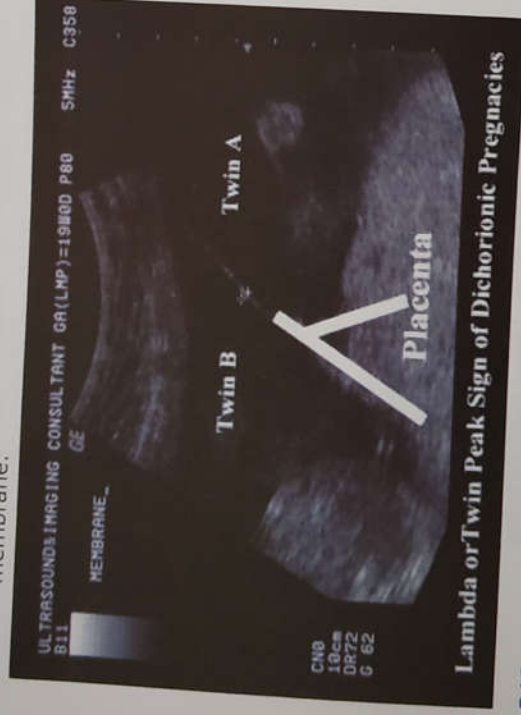
The most common lie of the fetuses is longitudinal (90%) but malpresentations are quite common.

The combination of presentation of the fetuses are—
(1) both vertex (50%), (2) first vertex and second breech (30%), (3) first breech and second vertex (10%), (4) both breech (10%), (5) first vertex and second transverse and so on, but rarest one, being both transverse when the possibility of conjoined twins should be ruled out

(Ref Dutta textbook of obstetrics)

312. D. Diamniotic dichorionic

"Twin peak" sign. In **dichorionic diamniotic** twin gestations, the chorion and amnion for each twin reflect away from the fused placenta to form the intertwin membrane. A potential space exists in the intertwin membrane, which is filled by proliferating placental villi giving rise to the twin peak sign. Twin peak sign appears as a triangle with the base at the chorionic surface and the apex in the intertwin membrane.



313. A. Monochorionic monoamniotic twins

Vaginal delivery is done in twin pregnancy except in following cases where LSCS is indicated:

- For twins: (i) Both the fetuses or even the first fetus with noncephalic (breech or transverse) presentation
(ii) Twins with complications: IUGR, conjoined twins
(iii) Monoamniotic twins (iv) Monochorionic twins with TTTS (v) Collision of both the heads at brim preventing engagement of either head.
Obstetric indication: (1) Placenta previa (2) Severe preeclampsia (3) Previous cesarean section (4) Cord prolapse of the first baby (5) Abnormal uterine contractions (6) Contracted pelvis

314. D. Dichorionic diamniotic in monozygotic twins

Dizygotic twins: There are two placentae, either completely separated or more commonly fused at the margin appearing to be one (9 out of 10). Each fetus is surrounded by a separate amnion and chorion. Hence placenta here is dichorionic diamniotic

While in monozygotic twins if division occur within 72 hrs it is dichorionic diamniotic
If division occurs in 4-8 days it is monozygotic diamniotic

If division occurs in 8-12 days it is Monozygotic and monoamniotic

If division occurs. 12 days it is conjoined twins

315. D. >8 days

In monozygotic twins if division occur within 72 hrs it is dichorionic diamniotic

If division occurs in 4-8 days it is monozygotic diamniotic

If division occurs in 8-12 days it is Monozygotic and monoamniotic

If division occurs. 12 days it is conjoined twins

316. A. Fertilization of 2 ova released at same time, by sperms released at intercourse on 2 different occasions

Superfecundation is the fertilization of two different ova released in the same cycle, by separate acts of coitus within a short period of time.

Superfetation is the fertilization of two ova released in different menstrual cycles. The nidation and development of one fetus over another fetus is theoretically possible until the decidual space is obliterated by 16 weeks of pregnancy.

317. B. Dicrocephalus

318. D. All of the above

MATERNAL —n

1. Anemia is more due to increased iron and folate requirement by the two fetuses.

2. Preeclampsia (25%)(including PIH) is increased three times over singleton pregnancy. Exposure to superabundance of chorionic villi is the possible explanation

3. Hydramnios (10%) is more common in monozygotic twins and usually involves the second sac. It is perhaps due to increased renal perfusion with consequent increased urinary output which may accompany the hypervolemia in the larger twin.

4. Antepartum hemorrhage may occur with slight increased frequency. The increased incidence of placenta previa is due to the bigger size of the placenta encroaching on to the lower segment

5. Malpresentation is quite common in twins compared to singleton pregnancies

6. Preterm labor (50%) frequently occurs and the mean gestational period for twins is 37 weeks

Hence answer for above question is D

D. Breech presentation of the second baby

Indications of urgent delivery of the second baby:

- (1) Severe (intrapartum) vaginal bleeding, (2) Cord prolapse of the second baby, (3) Inadvertent use of



intravenous ergometrine (oxytocics) with the delivery of the first baby, (4) First baby delivered under general anesthesia, (5) Appearance of fetal distress
Hence answer here is option D where urgent delivery of second baby is not indicated can be simply extracted by breech extraction

B. 11-13 weeks

Ref Dutta textbook of obstetrics

If there are 4 or more fetuses, selective reduction of the fetuses can be done by intracardiac injection of potassium chloride between 11 and 13 weeks under ultrasonic guidance. It is done transabdominally. Umbilical cord of the targeted twin is occluded by fetoscopic ligation or by laser or by bipolar coagulation, to protect the co-twin from adverse drug effect. Multiple pregnancy reduction improves perinatal outcome in women with triplets or more.

320.

B. Cord entanglement

Monochorionic twin pregnancy is associated with a specific complication i.e. cord entanglement because both twins lie in the same sac.

322. A. DNA finger printing

The most definite proof of monozygosity is DNA finger printing by DNA microprobe technique

323. B. 10-14 weeks

Best time to detect chorionicity by USG is between 11-14 weeks, although twin peak sign can be seen until 20 weeks

324. C. 25% with the larger twin as index

Unequal sizes of twin fetuses with difference of 25% (larger twin being used as the index), is called as Discordant growth.

Anemia in Pregnancy — Questions

325. According to WHO, anemia in pregnancy is diagnosed when hemoglobin is less than:

- A. 10.0 gm%
- B. 11.0 gm%
- C. 12.0 gm%
- D. 9.0 gm%

326. Which of the following tests is most sensitive for the detection of iron depletion in pregnancy?

- A. Serum iron
- B. Serum transferrin
- C. Serum ferritin
- D. Serum iron binding capacity

327. Most common cause of maternal anaemia in pregnancy:

- A. Acute blood loss
- B. Iron deficiency state
- C. GI blood loss
- D. Thalassemia

328. Tablets supplied by governments of india contain:

- A. 60 mg elemental iron+ 500 mcg of folic acid
- B. 200 mg elemental iron +1 of folic acid
- C. 100 mg elemental iron +500 mcg of folic acid
- D. 100 mg elemental iron +5 mg of folic acid

329. Total amount of iron needed by the fetus during entire pregnancy is:

- A. 500 mg
- B. 1000 mg
- C. 800 mg
- D. 300 mg

330. The following statements are related to the therapy of iron deficiency anaemia except:

- A. Oral iron can be given only if anemia is detected before 20 weeks of pregnancy
- B. Parenteral iron therapy markedly increases the reticulocytic count within 7-14 days
- C. Parenteral therapy is ideal during 30-36 weeks
- D. Blood transfusion may be useful in severe anaemia beyond 36 weeks

331. Formula used for estimation of the total iron requirement is:

- A. 4 body weight (kg) Hb deficit (g/dL)
- B. 4.4 body weight (kg) Hb deficit (g/dL)
- C. 0.3 body weight (kg) Hb deficit (g/dL)
- D. 3.3 body weight (kg) Hb deficit (g/dL)

332. Not an indicator for blood transfusion:

- A. Severe anemia at 36 weeks
- B. Moderate anemia at 24-30 weeks
- C. Blood loss anemia
- D. Refractory anemia

333. Which of the following hematological criteria remains unchanged in pregnancy?

- A. Blood volume
- B. TIBC
- C. MCHC
- D. S.ferritin

334. Dose of folic acid per day for treating megaloblastic anemia in pregnancy:

- A. 400g
- B. 4 mg
- C. 1 mg
- D. 2 mg

325. b	326. c	327. b	328. a	329. d	330. a	331. c	332. b	333. c	334. d
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Anemia in Pregnancy — Explanations

325. B. 11.0 gm%

According to the standard laid down by WHO, anemia in pregnancy is present when the hemoglobin concentration in the peripheral blood is 11 g/100 ml or less. Most common anemia in pregnancy is Iron deficiency Anemia.
(Ref Dutta textbook of obstetrics)

326. C. Serum ferritin

Serum ferritin below 30 µg/l confirms iron deficiency anemia

Other blood values in Iron Deficiency Anemia:

- Serum iron is <30 µg/100 mL.
- Total iron binding capacity is raised (>400 mcg/dl)
- Percentage saturation is 10% or less
- Serum bilirubin is not raised

A typical iron deficiency anemia shows the following blood values: Hemoglobin—less than 10 gm%, red blood cells—less than 4 million/mm³, PCV—less than 30%, MCHC—less than 30%, MCV—less than 75 µ³ and MCH—less than 25 pg.

Hence all these indices can be used for diagnosis

(Ref Dutta textbook of obstetrics)

327. B. Iron deficiency state

328. A. 60 mg elemental iron+ 500 mcg of folic acid

329. D. 300 mg

Total iron requirement during pregnancy is estimated approximately 1,000 mg. This is distributed in fetus and placenta 300 mg and expanded red cell mass 400 mg. There is obligatory loss of about 200 mg through normal routes

However, there is saving of about 300 mg of iron due to amenorrhea for 10 months. (Iron loss in menstrual bleeding per cycle is 30 mg

(Ref Dutta textbook of obstetrics)

330. A. Oral iron can be given only if anemia is detected before 20 weeks of pregnancy

Option A- is incorrect as oral is not given before 20 weeks of pregnancy we generally give folic acid during that period

Rest all are correct

Option B -The main advantage of parenteral therapy is the certainty of its administration to correct the hemoglobin deficit and to fix up the iron store. The

expected rise in hemoglobin concentration after parenteral therapy is 0.7 to 1 g/100 ml/week.

Option C- hemoglobin response does not appear before 4 to 9 weeks, the method is unsuitable if at least 4 weeks' time is not available, to raise the hemoglobin to a safe level of 10 gm/dl before delivery. Thus, it is mostly suitable during 30–36 weeks of pregnancy

Option D- Indications of blood transfusion are :

(1) To correct anemia due to blood loss and to combat postpartum hemorrhage.

(2) Patient with severe anemia seen in later months of pregnancy (beyond 36 weeks

(3) Refractory anemia

331. C. 0.3 body weight (kg) × Hb deficit (g/dL)

formula is:

$0.3 \times W$ (100 Hb%) mg of elemental iron. Where W = patients weight in pounds. Hb% = observed hemoglobin concentration in percentage. Additional 50% is to be added for partial replenishment of the body store iron.

Example (Iron dextran): The total elemental iron required in an anemic patient weighing 100 lb with hemoglobin 50% is calculated as follows: 0.3×100 (100–50) = 3/10 × 100 × 50 = 1500 mg. Add 50% = 750 mg. Total elemental iron required 2,250 mg

332. B. Moderate anemia at 24-30 weeks

The indications are :

(1) To correct anemia due to blood loss and to combat postpartum hemorrhage.

(2) Patient with severe anemia seen in later months of pregnancy (beyond 34 weeks)—to improve the anemic state and oxygen carrying capacity of blood before the patient goes into labor

(3) Refractory anemia: Anemia not responding to either oral or parenteral therapy in spite of correct typing.

(4) Associated infection

333. C. MCHC

MCHC(mean corpuscular haemoglobin concentration) remains unchanged during pregnancy.

MCV increases minimally during pregnancy

334. D. 1 mg.

1 mg is required to treat megaloblastic anemia in pregnancy

Heart Diseases in Pregnancy — Questions

- 335.** Maximum cardiac output in pregnancy is at:
 A. 20 weeks B. 24 weeks
 C. 26 weeks D. 28 weeks
- 336.** An absolute indication for LSCS in case of a Heart disease is:
 A. Co-arc-tation of Aorta
 B. Eisenmenger syndrome
 C. Ebsteins anomaly
 D. Pulmonary stenosis
- 337.** Signs of heart disease in pregnancy:
 A. Diastolic murmur
 B. Systolic murmur
 C. Tachycardia
 D. Dyspnea on exertion
- 338.** Maximum strain of parturient heart occurs during:
 A. At term
 B. Immediated postpartum
 C. Ist trimester
 D. IInd trimester
- 339.** In a patient with heart disease, which of the following should not be used to control PPH:
 A. Methyergometrine B. Oxytocin
 C. Misoprostol D. Carboprost
- 340.** In which of the following heart diseases is materani mortality during pregnancy found to be the highest:
 A. Coarctation of aorta
 B. Eisenmenger syndrome
 C. AS
 D. MS
- 341.** Normal pregnancy can be continued in:
 A. Primary pulmonary hypertension
 B. Wolf-Parkinson-White syndrome
 C. Eisenmenger syndrome
 D. Marfan syndrome with dilated aortic root
- 342.** In severe mitral stenosis during pregnancy area of mitral valve is:
 A. 4-6 cm²
 B. 1.5-2.5 cm²
 C. 1-1.5 cm²
 D. 0.8-1 cm²
- 343.** Cesarean section is mandatory in which cardiac disease?
 A. VSD
 B. Coarctation
 C. MVP
 D. MS
- 344.** Which of the following features indicates the presence of heart disease in pregnancy and which is not seen in normal pregnancy?
 A. Exertional dyspnea
 B. Distended neck veins
 C. Systematic hypotension
 D. Pedal edema
- 345.** In a pregnant woman with heart disease ,all of the following are to be done except:
 A. IV methergin after delivery
 B. Prophylactic antibiotic
 C. IV frusemide postpartum
 D. Cut short 2nd stage of labor
- 346.** Indications for cesarean section in pregnancy are all except:
 A. Eisenmenger syndrome
 B. AS
 C. Aortic aneurysm
 D. Aortic regurgitation
- 347.** Lady with MS+MR with full term gestation,obsterician planning to conduct normal delivery ,what would be anesthesia of choice?
 A. Parental opioids
 B. Spinal anesthesia
 C. Inhalational analgesia
 D. Neuraxial analgesia
- 348.** In heart patient the worst prognosis during pregnancy is seen in:
 A. Mitral regurgitation B. Mitral valve prolapse
 C. AS D. Pulmonary stenosis

335. d	336. a	337. a	338. b	339. a	340. b	341. b	342. c	343. b	344. b
345. a	346. a	347. d	348. c						

Heart Diseases in Pregnancy — Explanations

D. 28 weeks

335.

The cardiac output (CO) starts to increase from 5th week of pregnancy and reaches its peak 40–50% at about 30–34 weeks. Thereafter the CO remains static till term

Cardiac output increases further during labor (+50%) and immediately following delivery (+70%) over the pre-labor values.
(Ref Dutta textbook of obstetrics)

336.

A. Co-arctation of Aorta

In heart diseases like coarctation of aorta and Marfan's syndrome Lscs is indicated
(Ref : Dutta textbook of obstetrics)

337.

A. Diastolic murmur

Normally a systolic murmur may be audible in the apical or pulmonary area. This is due to decreased blood viscosity and torsion of the great vessels but presence of systolic murmur >grade 3 or diastolic murmur is a sign of heart disease.

338.

B. Immediated postpartum

The cardiac output (CO) starts to increase from 5th week of pregnancy and reaches its peak 40–50% at about 30–34 weeks. Thereafter the CO remains static till term

Cardiac output increases further during labor (+50%) and immediately following delivery (+70%) over the pre-labor values hence maximum increase in CO occurs in immediate post partum period causing maximum work load during that period hence causing maximum strain

339.

A. Methyergometrine

Methergine is contraindicated in women with heart as it causes severe hypertension.

340.

B. Eisenmenger syndrome

Poor prognostic factors in cardiac disease in pregnancy are : Marfans syndrome with aortic root involvement coarctation aortic valve involvement of aorta, eisenmengers syndrome >EF<45%, NYHA

Grade 4/5 , severe MS AS

While good prognostic factors are :

ASD, VSD, Corrected TOF, ebsteins anomaly, PDA

341.

B. Wolf-Parkinson-White syndrome

342.

C. 1–1.5 cm²

Severe mitral stenosis as per 2014 guidelines is mitral valve area 1–1.5 cm² or less.

343.

B. Coarctation of aorta

344.

B. Distended neck veins

Distended neck veins are suggestive of heart disease in pregnancy and are not a normal physiological condition.

345.

A. IV methergin after delivery

Methylergometrine is contraindicated in patient of heart disease.

346.

A. Eisenmenger syndrome

Cardiac indications for cesarean section

- Aortic aneurysm or dilated aortic root 4cm
- Marfans syndrome with aortic involvement
- Severe symptomatic AS
- Acute severe congestive heart failure
- Recent MI

347.

D. Neuraxial analgesia

Pain relief is important for heart disease patients as pain can cause tachycardia, which in turn can cause cardiac failure. Epidural and spinal techniques are the most effective means of providing pain relief for labor. These are also known as regional techniques because pain relief is limited to a specific anatomical region.

(Ref. Williams)

348.

C. Aortic stenosis

Although mild to moderate degree of AS is well tolerated but severe degree is life threatening.

(Ref. Williams)

Diabetes in Pregnancy — Questions

349. In pregnant female with BP 150/100 mm Hg, a protein/creatinine ratio of ____ suggests development of pre-eclampsia:
 A. > 0.20 B. >0.30
 C. < 0.20 D. <0.30
350. Recurrence rate of HELLP syndrome:
 A. 5% B. 10 %
 C. 15% D. 25%
351. Pre-eclampsia M/C presents in:
 A. 1st trimester B. 2nd trimester
 C. 3rd trimester D. Postpartum
352. Which of the following antihypertensives is not given in pregnancy?
 A. Enalapril B. α -methylidopa
 C. Labetalol D. Nifedipine
353. DOC for PIH is:
 A. Atenolol B. Nitroprusside
 C. Enalapril D. Alpha methylidopa
354. A 27 year primigravida presents with pregnancy induced hypertension with blood pressure of 150/100mm of Hg at 32 weeks of gestation with no other complications. Subsequently, her blood pressure is controlled on treatment. If there are no complication, the pregnancy should be terminated at:
 A. 40 completed weeks B. 37 completed weeks
 C. 35 completed weeks D. 34 completed weeks
355. A lady with 12 wks of pregnancy having fasting blood glucose 170 mg/dl, the antidiabetic drug of choice is:
 A. Insulin B. Metformin
 C. Glipizide D. Glibenclamide
356. Late hyperglycemia in pregnancy is associated with:
 A. Macrosomia B. IUGR
 C. Postmaturity D. Congenital malformation
357. Glucose tolerance test is indicated in pregnancy because of: (PGI)
 A. Big baby
 B. Eclampsia
 C. Previous GDM
 D. H/O diabetes in 1st degree relative.
358. All are seen in gestational diabetes except:
 A. Previous macrosomic baby
 B. Obesity
 C. Malformations
 D. Polyhydramnios
359. Commonest congenital malformation in infant of a diabetic mother is:
360. Most common congenital malformation seen in a diabetic pregnant woman amongst the following are:
 A. Neural tube defect B. Hydrocephalus
 C. Anencephaly D. Sacral agenesis
361. Infant of diabetic mothers are likely to have the following cardiac anomaly:
 A. Coarctation of aorta
 B. Fallot's tetralogy
 C. Ebstein's anomaly
 D. Transposition of great arteries
362. Complications of diabetes in pregnancy includes all except:
 A. Macrosomia
 B. Shoulder dystocia
 C. Hyperglycemia in newborn
 D. Caudal regression
363. Which is/are not fetal complication of uncontrolled diabetes during pregnancy:
 A. Stillbirth
 B. Chromosomal anomaly
 C. NTD
 D. Fetal anomalies
364. All are features of infant born to diabetic mother except:
 A. Obesity
 B. Learning disability
 C. Ketotic hypoglycemia
 D. Future diabetes mellitus
365. Fasting blood sugar should be maintained in a pregnant diabetic female as:
 A. 70-100 mg% B. 100-130 mg%
 C. 130-160 mg% D. 160-190 mg%
366. Gestational diabetes is diagnosed by:
 A. Glucose tolerance test (GTT)
 B. Random blood sugar
 C. Fasting and postprandial blood sugar
 D. 24 hours blood glucose profile
367. For antenatal fetal monitoring in a diabetic pregnancy all of the following are useful except:
 A. Non-stress test B. Biophysical profile
 C. Doppler flow study D. Fetal kick count
368. Prolactinoma in pregnancy, all are true except:
 A. Most common pituitary tumor but rarely symptomatic
 B. Increase in prolactin levels worse prognosis
 C. Macroadenoma >1 cm is associated with bad prognosis
 D. Regular visual checkup

349. b	350. a	351. c	352. a	353. d	354. b	355. a	356. a	357. a,c,d	358. c
359. a	360. a	361. d	362. c	363. b	364. c	365. a	366. a	367. c	368. b

349 **B. >0.30**

In patients with gestational hypertension, there are high chances (15-25%) of progressing to pre-eclampsia. Pre-eclampsia is heralded by the development of proteinuria.

Protein/creatinine ratio = >0.30 indicates pre-eclampsia

350. **A. 5%**

Recurrence rate is upto 7%

Recurrence rate of HELLP syndrome

351. **C. 3rd trimester**

352. **A. Enalapril**

(Ref Williams Obs, High Risk Pregnancy, Fernando Arias)

353. **D. Alpha methyldopa**

The answer to the question should have been Labetalol.

But since it is not given in options we will go with alpha methyldopa. Methyldopa is used for chronic hypertension in pregnancy and mild pre-eclampsia but is not used in severe pre-eclampsia because of delayed onset of action.

354. **B. 37 completed weeks**

(Ref. Dutta; Fernando Arias)

The patient in the question has BP = 150/100 mm of Hg, i.e. mild hypertension and has no complications. Her BP is controlled on Treatment, i.e. she is being managed expectantly.

In such patients pregnancy should be terminated at 37 weeks

355. **A. Insulin**

In overt diabetes (a) the fasting plasma glucose exceeds 126 mg/dl, (b) the 2 hours post glucose (75 gm) value exceeds 200 mg/dl and (c) HbA1C $\geq 6.5\%$

Here pregnancy is before 24-28 weeks and plasma fasting glucose levels exceeds 125 hence we can say this is overt diabetes

In case of overt diabetes treatment is

1. diabetic diet

2. insulin therapy

So answer here is option A

356. **A. Macrosomia**

Maternal hyperglycemia $\rightarrow$ hypertrophy and hyperplasia of the fetal islets of Langerhans $\rightarrow$ increased secretion of fetal insulin $\rightarrow$ stimulates carbohydrate utilization and accumulation of fat. Insulin like growth factors (IGF-I and II) are also involved in fetal growth and adiposity.

IUGR is not seen in diabetes

Preterm labor (26%) may be seen in DM rather than postmaturity it is due to infection or polyhydramnios

Congenital malformations are seen due to diabetes in early pregnancy rather than late
(Ref Dutta textbook of obstetrics)

357. **A. Big baby, C. Previous GDM and D. H/O diabetes in 1st degree relative.**

GTT is done in patients having risk of GDM

The potential candidates for GDM are: (a) Positive family history of diabetes (parents or sibling). Family history should include uncles, aunts and grandparents. (b) Having a previous birth of an overweight baby of 4 kg or more (c) Previous stillbirth with pancreatic islet hyperplasia revealed on autopsy (d) Unexplained perinatal loss (e) Presence of polyhydramnios or recurrent vaginal candidiasis in present pregnancy (f) Persistent glycosuria (g) Age over 30 years (h) Obesity (i) Ethnic group (East Asian, Pacific island ancestry)

(Ref: Dutta textbook of obstetrics)

358. **C. Malformations**

Malformations are seen in overt diabetes that is diabetes that is present before conception (previously diagnosed case) or can say before 24 weeks of gestation as organogenesis occurs during that period hence chances of fetal malformation increases

So answer here is option C.

359. **A. Neural tube defect**

Most common congenital malformation in infant of Diabetic mother is CVS - vsd

Most specific among CVS is TGA (Transposition of great arteries)

2nd most common is neural tube defects including sacral agenesis/caudal regression

Best answer here is option A

360. **A. Cardiac defect**

361. **D. Transposition of great arteries**

362. **C. Hyperglycemia in newborn**

Hypoglycemia (<35 mg/dl) is due to **hyperinsulinemia**. It is common in macrosomic infants.

Rest all are seen in diabetes in pregnancy

363. **B. Chromosomal anomaly**

CHROMOSOMAL ANOMALY are not increased in diabetes rather fetal anomaly is seen

Congenital malformation (6-10%) is related to the severity of diabetes affecting organogenesis, in the 1st trimester (both in type 1 and type 2 diabetes). The factors associated with teratogenesis are multifactorial: (a) Genetic susceptibility (b) Hyperglycemia (c) Arachidonic acid deficiency (d) Ketone body excess (e) Somatomedin inhibition (f) Free oxygen radical excess (superoxide dismutase, an oxygen radical scavenging enzyme can protect excess malformation). Risks of fetal chromosomal abnormalities are not increased.

(Ref Dutta textbook of obstetrics)



364. C. Ketotic hypoglycemia

Foetal complication:

- Fetal macrosomia
- Fetus has non ketotic hypoglycemia
- infant of diabetic mother have long-term effects—childhood obesity, neuropsychological effects and diabetes

(Dutta textbook of obstetrics)

365. A. 70-100 mg%

Fasting plasma glucose level which should be less than 95 mg%. Maintenance of mean plasma glucose level between 105 mg/dl and 110 mg/dl is desirable for good fetal outcome (DIPSI – 2009). The control of high blood glucose is done by restriction of diet, exercise with or without insulin. Human insulin should be started if fasting plasma glucose level exceeds 95 mg/dl and 2 hours postprandial value is greater than 120 mg/dl (repetitive) even on diet control

(Ref Dutta textbook of gynaecology)

366.

A. Glucose tolerance test (GTT)

DIPSI (Diabetes in Pregnancy Societies of India): recommends 1-step procedure with 75 gm oral glucose without regard to the time of the last meal. A venous plasma glucose value at 2-hour more than 140 mg/dl is diagnosed GDM.

(Ref Dutta textbook of gynaecology)

367.

C. Doppler flow study

Sonographic evaluation (level II) in pregnancy (at 3-4 weeks interval) is extremely helpful, not only to diagnose varieties of congenital malformation of fetus but also to detect fetal macrosomia or growth restriction (rare). Assessment of fetal well-being is to be made from 28 weeks onwards (ch. 11). Biophysical profile and NST should be performed weekly Doppler umbilical artery velocimetry is useful in cases with vasculopathy.

368.

B. Increase in prolactin levels worse prognosis

serum prolactin levels serve little use because of normal rises during pregnancy hence cannot be use for determining prognosis of tumor

A microadenoma is ≤ 10 mm, and a macroadenoma is > 10 mm. suprasellar macroadenomas have tumor enlargement that causes visual disturbances, headaches, and diabetes insipidus. most recommend treatment is surgical resection before pregnancy is attempted Hence associated with bad prognosis

Pregnant women with microadenomas should be queried regularly for headaches and visual symptoms. Those with macroadenomas are followed more closely and have visual field testing during each trimester.

(Ref Williams obstetrics)

Pre-Eclampsia — Questions

- 369. Risk factors for preeclampsia:(PGI TYPE)**
 A. Chronic hypertension
 B. Obesity
 C. Placental ischaemia
 D. Multigravida
 E. Antiphospholipid syndrome
- 370. Indicator of severe pre-eclampsia: (PGI)**
 A. IUGR
 B. Diastolic BP>110 mm of Hg
 C. Pulmonary Edema
 D. Systolic BP>160
 E. Oliguria
- 371. All of the following indicate superimposed pre-eclampsia in a pregnant female of chronic hypertension except:**
 A. New onset proteinuria
 B. Platelet count<75,000
 C. Increase in systolic BP by 30 mm Hg and diastolic by 15 mm Hg
 D. Fresh retinal hypertensive changes
- 372. All of the following may be used in pregnancy associated hypertension except:**
 A. Nifedipine
 B. Captopril
 C. Methyldopa
 D. Hydralazine
- 373. Which of the following antihypertensives is not safe in pregnancy:**
 A. Clonidine
 B. ACE inhibitors/Enalapril
 C. α -Methyldopa
 D. Amlodipine
- 374. A female of 36 weeks gestation presents with hypertension, blurring of vision and headache. Her blood pressure reading was 180/120 mm Hg and 174/110 mm Hg after 20 minutes. How will you manage the patient?**
 A. Admit the patient and observe
 B. Admit the patient, start antihypertensive and continue pregnancy till term.
 C. Admit the patient, start antihypertensive, mg SO4 and terminate the pregnancy
 D. Admit oral antihypertensives and follow up in outpatient department
- 375. A 28 year old eclamptic woman develop convulsions. The first measure to be done is:**
 A. Give MgSO4
 B. Sedation of patient
 C. Immediate delivery
 D. Care of airway
- 376. Which is not a feature of HELLP syndrome:**
 A. Thrombocytopenia
 B. Eosinophilia
 C. Raised liver enzyme
 D. Hemolytic anemia
- 377. All are true about pre eclampsia except:**
 A. Cerebral hemorrhage
 B. Pulmonary edema
 C. ARF
 D. DVT
- 378. Concentration of MgSO4 in the treatment of eclampsia in meq/L:**
 A. 7-10
 B. 10-15
 C. 2-4
 D. 4-7
- 379. Earliest sign of Mg toxicity:**
 A. Depression of deep tendon reflexes
 B. Respiratory depression
 C. Cardiac arrest
 D. Anuria
- 380. Best drug for management of eclampsia:**
 A. MgSo 4
 B. Lytic cocktail regime
 C. Phenytoin
 D. Diazepam
- 381. A 32-year old G3P2 woman at 35 weeks gestation has a past medical history significant for hypertension. She was well-controlled on hydrochlorothiazide and lisinopril as an outpatient, but these drugs were discontinued when she found out that she was pregnant. Her blood pressure has been relatively well controlled in the 120-130 mm hg systolic range without medication, and urinalysis has consistently been negative for proteinuria at each of her prenatal visits she pressure of 142/84 mm Hg. A 24-hour urine specimen yields 0.35 g of proteinuria. Which of the following is the most appropriate next step?**
 A. Start iv furosemide
 B. Induce labor after doing Bishop score
 C. Put her on hydralazine
 D. Initial inpatient evaluation followed by restricted activity and outpatient management.
 E. Start her prepregnancy regime
- 382. All of the following are predictive tests for PIH except**
 A. Rolling over test
 B. Serum uric acid
 C. Gain in weight >2kg in one month
 D. Shake test
- 383. A 24-year-old woman with 36 weeks of pregnancy, suddenly complains of headache and blurring of vision. Her B.P. is 170/110 mm of Hg. Urinary albumin is +++ and fundus examination shows areas of retinal hemorrhage. The line of further management would be:**
 A. Conservative treatment
 B. Anticonvulsive therapy
 C. Induction of labour
 D. Cesarean delivery
- 384. Cause of convulsion in eclampsia:**
 A. Cerebral anoxia due to arterial spasm
 B. Hypovolemia
 C. Hypocvolemia
 D. Shock

369. a,b,c,e	370. b,c,d	371. c	372. b	373. b	374. c	375. d	376. b	377. d	378. d
379. a	380. a	381. d	382. d	383. b	384. a				

Pre-Eclampsia — Explanations

369. A. Chronic hypertension, B. Obesity, C. Placental ischaemia and E. Antiphospholipid syndrome

Risk Factors for Preeclampsia n

- Primigravida: Young or elderly (first time exposure to chorionic villi)
- Family history: Hypertension, preeclampsia
- Placental abnormalities: I Hyperplacentosis: Excessive exposure to chorionic villi (molar pregnancy twins, diabetes) I Placental ischemia.
- Obesity: BMI > 35 kg/m², Insulin resistance. n
- Pre-existing vascular disease n
- Thrombophilias [antiphospholipid syndrome, protein C, S deficiency, Factor V Leiden

Hence answer here is A B C E

(Ref Dutta textbook of obstetrics)

370. B. Diastolic BP > 110 mm of Hg, C. Pulmonary Edema and D. Systolic BP > 160

Features of severe PE are :

- Presence of EOD that can be indicated by: - 1. Platelet count < 1 lakh 2. Liver enzymes > twice 3. Evidence of serum creatinine > 1.1 4. pulmonary edema 5. cerebral/visual symptoms
- BP > 160/110 MM OF HG on 2 occasions 2 hours apart
- Hence answer here is option B C D

371. C. Increase in systolic BP by 30 mm Hg and diastolic by 15 mm Hg

The criteria for diagnosis of superimposed preeclampsia: n

- New onset of proteinuria > 0.5 g/24 hours specimen n
- Aggravation of hypertension
- Development of HELLP syndrome
- Development of headache scotoma, epigastric pain

372. B. Captopril

Drugs used in PIH are:

Methyl-dopa- Central and peripheral antiadrenergic action

Labetalol- Adrenoceptor antagonist (α and β blockers)

Nifedipine- Calcium channel blocker

Hydralazine- Vascular smooth muscle relaxant

Captopril (ACE inhibitors) causes teratogenic effects hence not used in pregnancy, craniofacial anomalies are seen with captopril.

373. B. ACE inhibitors/Enalapril

374. C. Admit the patient, start antihypertensive, mg SO₄ and terminate the pregnancy

Signs of impending eclampsia are :

1. Epigastric pain due to subcapsular hematoma
2. Headache / dizziness due to cerebral hypoxia)
3. Blurring of vision due to hypertensive retinopathy (diplopia / scotoma/blindness)

4. Blindness is due to hypoxic injury to occipital lobe Here patient is of impending eclampsia

Best management in patients of impending eclampsia - admit the patient

Start antihypertensive drugs indication for antihypertensive are > 160/110mm of hg labetalol is DOC in pregnancy

Iv Mgso₄ is started to prevent chances of seizures. It acts as a membrane stabilizer and neuroprotector. Next step is termination of pregnancy - all the patients of Gest HTN and mild pre eclampsia should be delivered by 37 weeks while those of severe PE should be delivered by 34 weeks

375. D. Care of airway

Measures in case of eclampsia:

1. Call for extra help (Communication)
2. To put patient in left lateral recumbent position
3. Maintain oral airway t O₂ inhalation - nonbreather mask; 10 L/minute
4. Commence IV lines; 1 or 2 wide bore cannulas
5. Foley catheter with urometer t
6. To monitor O₂ saturation; pulse oximeter (SP0₂ > 95%)
7. Control of seizures: MgSO₄, (IV/IM regimens)

376. B. Eosinophilia

HELLP syndrome denotes:

1. hemolysis
2. elevated liver enzymes (AST > 70 IU)
3. low platelets (< 1 lakh)

Other features are: presence of schistocytes (HELMET CELLS) and total bilirubin > 1.2

377. D. DVT

1. Abnormal weight gain
2. Rise of blood pressure: The diastolic pressure usually tends to rise first followed by the systolic pressure. This can cause manifestation like cerebral hemorrhage
3. Edema: Sudden and generalized edema may indicate imminent eclampsia.
4. Pulmonary edema—due to leaky capillaries and low oncotic pressure.

5. ARF can also been seen in cases of pre eclampsia
6. Abdominal examination may reveal evidences of chronic placental insufficiency, such as scanty liquor or growth retardation of the fetus. Thus, the manifestations of preeclampsia usually appear in the following order—rapid gain in weight 'visible edema and/or hypertension' proteinuria

378. D. 4-7

Concentration of Mgso₄ is:

1. Intramuscular (Pritchard regimen): 4 g (20% solution) IV over 3-5 minute followed by 10 g (50%), deep IM (5 gm in each buttock)
2. Intravenous (Zuspan or Sibai) 4-6 g IV slow over 15-20 minutes

The therapeutic level of serum magnesium is 4–7 mEq/L
(Ref Dutta textbook of obstetrics)

379. **A. Depression of deep tendon reflexes**

Monitoring of Magnesium Toxicity

1. Loss of deep tendon reflexes
2. Decreased respiratory rate (<12 per minute)
3. Urine output (< 30 mL/h)
4. Chest pain, heart block

380. **A. MgSo 4**

Magnesium sulfate is the drug of choice. It acts as a membrane stabilizer and neuroprotector. It reduces motor endplate sensitivity to acetylcholine. Magnesium also blocks neuronal calcium influx. It induces cerebral vasodilatation, dilates uterine arteries, increases production of endothelial prostacyclin and inhibits platelet activation. Compared to other regimens, magnesium sulfate has got the following benefits:

- (i) it controls fits effectively without any depression effect to the mother or the infant.
- (ii) reduced risk of recurrent convulsions (9%)
- (iii) significantly reduced maternal death rate (3%) and
- (iv) reduced perinatal mortality rate.

381. **D. Initial inpatient evaluation followed by restricted activity and outpatient management**

Here the patient is ELDERLY female having presence of hypertension of any cause antedating or before the 20th week of pregnancy hence diagnosis here is CHRONIC HYPERTENSION

And in : In mild cases with blood pressure less than 160/100 mm Hg, adequate rest (physical and mental), low-salt diet are all that are needed. The check up should be more frequent 1–2 weeks interval up to 28 weeks and thereafter weekly

382.

D. Shake test

Screening test for PE are:

1. Doppler ultrasound of high resistance index in the uterine artery
2. Development of renal dysfunction
3. Absence of end-diastolic frequencies or reverse diastolic flow patterns in the umbilical artery usually indicates poor perinatal outcome.
4. Average mean arterial pressure (MAP) in second trimester > 90 mm Hg may predict the onset.
5. Maternal serum level of SFlt-1 is increased in women with preeclampsia. Fetal DNA Detection of free fetal DNA (ff DNA) in maternal plasma in early pregnancy may be predictive of preeclampsia.
6. Proteomics, metabolomics and transcriptomic markers are currently being studied.
7. Roll over test: This screening test is done between 28 and 32 weeks

While option D shake test is to assess maturity of lungs not of any significance in PE

383.

B. Anticonvulsive therapy

Sudden headache and blurring of vision are signs of impending eclampsia and other features like bp > 160/110 and presence of proteinuria > 1 + also supports the diagnosis so such patients can throw fits at any point of time so anticonvulsive therapy is treatment of choice and mgso4

Magnesium sulfate is the drug of choice for eclampsia. It acts as a membrane stabilizer and neuroprotector. It reduces motor endplate sensitivity to acetylcholine. Magnesium also blocks neuronal calcium influx. Hence prevent convulsion during labor.

384.

A. Cerebral anoxia due to arterial spasm

CAUSE OF CONVULSION: (1) Anoxia — spasm of the cerebral vessels → increased cerebral vascular resistance → fall in cerebral oxygen consumption → anoxia, (2) Cerebral edema — may contribute to irritation, (3) Cerebral dysrhythmia — increases following anoxia or edema. There is excessive release of excitatory neurotransmitters (glutamate).

Rh Negative Pregnancy — Questions

- 385. Immediate cord ligation is done in:**
- A. Pre-term babies
 - B. Rh incompatibility
 - C. Both a and b
 - D. None of the above.
- 386. The dose of anti D gamma globulin given after term delivery for a Rh negative mother and Rh positive baby is:**
- A. 50 micro gram
 - B. 200 micro gram
 - C. 300 micro gram
 - D. 100 micro gram
 - E. All of the above doses are incorrect
- 387. Rh negative G2P1 has an antibody titer of 4 IU/ml(IAT 1:4) at 8 weeks. Her husband is homozygous Rhesus positive. What is the next step in the management?**
- A. Assess middle cerebral artery blood flow from 18 weeks
 - B. Assess the amniotic fluid bilirubin levels at 18 weeks
 - C. Determine the fetal Rhesus status by analyzing cell-free fetal DNA present in the maternal blood at 8 weeks
 - D. Repeat the antibody titer in 4 weeks
- 388. Which one the following does not require treatment with anti-D during the first trimester of pregnancy?**
- A. Ectopic pregnancy
 - B. Evacuation of a partial hydatidiform mole
 - C. Evacuation of retained products of conception
 - D. Threatened abortion
- 389. Best time to give Anti-D to a pregnant patient:**
- A. 12 weeks
 - B. 28 weeks
 - C. 36 weeks
 - D. After delivery

Rh Negative Pregnancy — Explanations

B. Rh incompatibility

385. Delay in clamping for 2–3 minutes or till cessation of the cord pulsation facilitates transfer of 80–100 mL blood from the compressed placenta to a baby when placed below the level of uterus. The benefits of delayed cord clamping are more evident for preterm babies than term babies. But early clamping should be done in cases of Rh-incompatibility (to prevent antibody transfer from the mother to the baby) or babies born asphyxiated or one of a diabetic mother.

C. 300 micro gram

386. Anti D-gammaglobulin is administered intramuscularly to the mother 300 µg following delivery. All Rh-negative unsensitized women should receive 50 µg of Rh-immune globulin IM within 72 hours of induced or spontaneous abortion, ectopic or molar pregnancy or CVS in the first trimester. Women with pregnancy beyond 12 weeks should have full dose of 300 µg. Generally 300 µg dose will protect a woman from fetal hemorrhage of upto 30 mL of fetal whole blood.

(Ref Dutta textbook of obstetrics)

D. Repeat the antibody titer in 4 weeks

387. Husband is homozygous Rhesus positive, the foetus will be Rhesus positive. Hence it is not necessary to determine the fetal Rhesus status. The next step in the management is to perform the antibody titer in 4 weeks. After 24 weeks antibody titer is done once in two weeks. Middle cerebral artery blood flow or amniocentesis is done only if the antibody levels reach a critical value.

D. Threatened abortion

388. The Threatened abortion in first trimester (at <12c weeks) doesnot need Anti D

B. 28 weeks

389. Anti-D injection should be given to all Rh-negative pregnant females with indirect coombs test negative at 28 weeks.

Dose= 300mcg

Injection given intramuscularly. This will protect her present on going pregnancy.

Miscellaneous — Questions

- 390.** A 25-Year-old primigravida with 20 weeks of pregnancy has a first episode of a symptomatic bacteriuria. The risk of having pyelonephritis is:
 A. No risk with first episode B. 5%
 C. 15% D. 25%
- 391.** Regarding antibiotic of choice for urinary tract infection (UTI) during pregnancy at third trimester:
 a. Cephalosporin B. Quinolones
 C. Aminoglycosides D. Tetracyclines
- 392.** Regarding asymptomatic bacteriuria during pregnancy all are correct except:
 A. Bacterial count is over 105/ml
 B. Overall incidence is 5-10%
 C. It should be treated with appropriate antimicrobial agent
 D. Risk of progression to symptomatic state, if left untreated is rare
- 393.** All can be used to lower mother to child HIV spread except:
 A. Normal vaginal delivery
 B. Use vacuum to cut short 2nd stage
 C. ART
 D. Avoid artificial rupture of membranes
- 394.** Large placenta is seen in all of the following except:
 A. IUGR B. Syphilis
 C. CMV D. Rubella
- 395.** Cesarean section is preferred in:
 A. Toxoplasmosis B. Herpes
 C. CMV D. Varicella zoster virus
- 396.** Which of the following is not a complication of fibroid in pregnancy?
 A. Pre term labour
 B. Post partum hemorrhage
 C. Abortion
 D. None
- 397.** Roccure of choice in a woman with 12 weeks pregnancy and atypical pap smear is:
 A. Cone biopsy
 B. MTP with cone biopsy
 C. Hysterectomy
 D. Colposcopy
- 398.** Which female genital malignancy is most common in pregnancy?
 A. Ovarian cancer
 B. Vaginal vulvar cancer
 C. Endometrial cancer
 D. Cervical cancer
- 399.** Drug given to reduce uterine contractions during preterm labour with least side effects:
 A. Ritodrine B. Nifedipine
 C. Magnesium sulphate D. Progesterone
- 400.** In a pregnant woman of 28 weeks gestation IUD is earliest demonstrated on x0ray by:
 A. Increased flexion
 B. Overlapping of cranial bone
 C. Spalding's sign
 D. Gas in vessels
- 401.** Intrauterine death at 36 weeks. Treatment is:
 A. Continue upto term
 B. Wait for spontaneous expulsion
 C. Syntocinon+ARM
 D. Hysterectomy
 E. LSCS
- 402.** A G2P1 at 36 weeks of gestation has a H/O prior stilli birth at 37 weeks. The best time of delivery for the patient this me is:
 A. Immediately B. 37 weeks
 C. 38 weeks D. 39 weeks
- 403.** Complete perineal tear should be repaired:
 A. 24 hrs later B. 48 hrs later
 C. 36 hrs later D. Immediately

390. d	391. a	392. d	393. b	394. a	395. b	396. d	397. d	398. d	399. b
400. d	401. b	402. d	403. d						

Miscellaneous — Explanations

390. **D. 25%**

pyelonephritis:

1. It is more common in primigravidae than multiparae
- (2) Previous history of urinary tract infection increases the chance by 50% (3) **Presence of asymptomatic bacteriuria increases the chance by 25%**
- (4) Abnormality in the renal tract is found in about 25%.

Ref Dutta textbook of obstetrics)

A. Cephalosporin

391.

D. Risk of progression to symptomatic state, if left untreated is rare

392.

- The term asymptomatic bacteriuria is used when a bacterial count of the same species over 105/ml in mid stream clean catch specimen of urine on two occasions is detected without symptoms of urinary infection.
 - The overall incidence during pregnancy ranges between 2% and 10%.
 - The antimicrobial agents should be appropriate to the mother and the fetus. Any one of these drugs could be prescribed, amoxicillin (500 mg tid), nitrofurantoin (100 mg bid), cephalixin (500 mg tid) or amoxicillin-clavulanic acid (875 mg bid).
 - Twenty-five percent of these women are likely to develop acute pyelonephritis, usually in third trimester, if left untreated. Asymptomatic bacteriuria if recurrent is associated with high incidence of urinary tract abnormality (20%), congenital or acquired. The woman runs a greater risk of developing chronic renal lesion in later life
- Hence with above explanation we can say option A

BC are correct

(Ref Dutta textbook of obstetrics)

393. **B. Use vacuum to cut short 2nd stage**

Following measures can be taken for prevention of HIV spread from mother to child :

- Zidovudine (ZDV) is given IV infusion starting at the onset of labor (vaginal delivery) or 4 hours before cesarean section. loading dose 2 mg/kg/hr, maintenance dose 1 mg/kg/hr until cord clamping is done.
- Elective cesarean delivery is recommended (RCOG-2010) at 38 weeks for women taking HAART who have plasma viral load > 1000copies/ml
- Perioperative or peripartum broad spectrum antibiotics should be given as per hospital protocol.
- Instrumentation (ventouse) is avoided.
- Amniotomy and oxytocin augmentation for vaginal delivery should be avoided whenever possible.
- Post exposure prophylaxis with triple therapy for 4 weeks, reduces the risk of seroconversion by more than 80%. (ZDV 200 mg tid + lamivudin 150 mg bid + Indinavir 800 mg tid).

- Elective cesarean delivery reduces the risk of vertical transmission by about 50%. Avoidance of breastfeeding, HAART therapy and appropriate mode of delivery has reduced MTCT rates from 25-30% to < 1%. Baby should be bathed immediately

Ref Dutta textbook of obstetrics)

394.

A. IUGR

Placenta thicker than 40mm is described as placentomegaly. Causes are maternal diates, maternal anemia, fetal hydrops, fetal anaemia, infection caused by syphilis, toxoplasmosis, parvovirus, CMV

395.

B. Herpes

The virus can be passed to fetus/neonate by 3 routes peripartum 85% post natal 10% intrauterine 5%. To diminish vertical transmission Cesarean Delivery is indicated for women with active genital lesions or prodromal symptoms. It is not recommended for women with history of HSV Infection but no active genital disease at delivery

396.

D. None

EFFECTS ON PREGNANCY: It depends on their location. (1) May be none; (2) Pressure symptoms due to impaction — (a) bladder—retention of urine and (b) rectum—constipation; (3) Abortion; (4) Malpresentation; (5) Non-engagement of the presenting part; (6) Preterm labor and prematurity; (7) Red degeneration; (8) Placental abruption. Postpartum hemorrhage is due to atonicity or due to morbid adherent placenta

397.

D. Colposcopy

In case of atypical pap smear first step is to decide severity wheather its mild moderate or severe

In case of mild- Repeat smear after 6 months

In case of moderate or severe – first step is colposcopy followed by colposcopic directed biopsy , cone bioposy is done in conditions where colposcopy is not available

(Ref Dutta textbook of gynaecology)

398.

D. Cervical cancer

The incidence of invasive carcinoma of the cervix is about 1 in 2,500 pregnancies.

The incidence of ovarian tumor with pregnancy is about 1 in 2,000.

399.

B. Nifedipine

Various drugs nifedipine, atosiban, progesterone (micronized) have been used to inhibit uterin progesterone is not a tocolytic. It is only used for prophylaxis for Preterm labour

400.

D. Gas in vessels

Signs of IUD detected on xray are :

- Appearance of gas shadow (Robert's sign) in the chambers of the heart and great vessels may appear as early as 12 hours



- Spaldings sign :- The irregular overlapping of the cranial bones on one another is due to liquefaction of the brain matter and softening of the ligamentous structures supporting the vault. It usually appears 7 days after death

- Other findings are :
 - Hyperflexion of the spine is more common. In some cases hyperextension of the neck is seen.
 - Crowding of the ribs shadow with loss of normal parallelism.
 - Hence answer here is option D

(Ref : Dutta textbook of obstetrics)

401. **B. Wait for spontaneous expulsion**

In about 80% of cases, spontaneous expulsion occurs within 2 weeks of death

INDICATIONS OF EARLY INTERFERENCE

- Psychological upset of the patient
 - Manifestations of uterine infection
 - Tendency of prolongation of pregnancy beyond 2 weeks
 - Falling fibrinogen level (rare)
- Induction if at all required is always done with medical methods

Place of cesarean section in a case with IUD is limited. Previous cesarean section (two or more), major degree placenta previa and transverse lie are the rare conditions.

Hysterectomy is never indicated in patients with IUD

402. **D. 39 weeks**

The overall risk of recurrence of stillbirth varies between 0% and 8% since the incidence of recurrence is very less pregnancy should be continued for as long as possible hence answer here will be option D

(ref Dutta textbook of obstetrics)

403. **D. Immediately**

Recent tear should be repaired immediately following the delivery of the placenta. This reduces the chance of infection and minimizes the blood loss. In cases of delay beyond 24 hours, the repair is to be withheld. Antibiotics should be started to prevent infection. The complete tear should be repaired after 3 weeks if delayed beyond 24 hours. In case of any doubt to grade of 3rd degree tear, it is advisable to classify to the higher degree rather than lower degree.

GYNAECOLOGY

Anatomy — Questions

404. All of the following pelvic structures support the vagina, except:
 A. Perineal body
 B. Pelvic diaphragm
 C. Levator ani muscle
 D. Infundibulopelvic ligament
405. All are related to lateral vaginal fornix except:
 A. Ureters
 B. Mackenrodt's
 C. Inferior vesical artery
 D. Uterine artery
406. The pH of vagina in adults is:
 A. 3.5-4.5
 B. 4.5-5.5
 C. 5.5-6.5
 D. 6.5-7.5
407. Protective bacterium in normal vagina is:
 A. Peptostreptococcus
 B. Lactobacillus
 C. Gardenella vaginalis
 D. E. coli
408. The main source of physiological secretion found in the vagina is:
 A. Bartholin's glands
 B. Gartner's duct
 C. Vagina
 D. Cervix
409. Uterine-cervix ratio upto 10 years of age:
 A. 3:2
 B. 2:1
 C. 3:1
 D. 1:2
410. The epithelial lining of cervical canal is:
 A. Low columnar
 B. High columnar
 C. Stratified squamous
 D. Ciliated columnar
411. Nabothian follicles occur in:
 A. Erosion of cervix
 B. Ca endometrium
 C. Ca cervix
 D. Ca vagina
412. Bartholin's duct opens into:
 A. Labia majora and minora
 B. A groove between labia minora and hymen
 C. The lower vagina
 D. The upper vagina
413. A woman presents with a fluctuant non tender swelling at the introitus. The best treatment is:
 A. Marsupialization
 B. Incision and drainage
 C. Surgical resection
 D. Aspiration
414. Narrowest part of fallopian tube is:
 A. Interstitial portion
 B. Isthmus
 C. Infundibulum
 D. Ampulla
415. 'Peg cells' are seen in:
 A. Vagina
 B. Vulva
 C. Ovary
 D. Tubes
416. The length of fallopian tube is:
 A. 8-10 cm
 B. 10-12 cm
 C. 15-18 cm
 D. 18-20 cm
417. Uterine artery is a branch of:
 A. Aorta
 B. Common iliac
 C. Internal iliac
 D. External iliac
418. Vaginal epithelium is derived from:
 A. Endoderm of urogenital sinus
 B. Mesoderm of urogenital sinus
 C. Endoderm of genital ridge
 D. Mesoderm of genital ridge
419. Anatomical sphincter of fallopian tubes?
 A. Ampulla
 B. Isthmus
 C. Intramural
 D. Infundibulum
420. With regards to labia majora all are correct except:
 A. Is homologous to scrotum in males
 B. Is supplied by branches of internal and external pudendal arteries
 C. Drains into superficial inguinal lymph nodes
 D. The broad ligament terminates at its anterior end
421. With regards to vagina all are correct except
 A. Makes an angle of 45 degrees with the horizontal in erect posture
 B. Looks like letter 'H' on cross section
 C. Vaginal axis lies parallel to the uterus and at right angles to the plane axis of inlet
 D. Is lined by stratified squamous epithelium
422. Ovary is:
 A. Is attached to the posterior layer of the broad ligament by mesovarium
 B. Has hilus cells in the cortex
 C. Left Ovarian veins drain into inferior vena cava
 D. Is connected to the uterus by infundibulopelvic ligament
423. The fallopian tube:
 A. Is lined entirely by ciliated columnar epithelium
 B. Has a submucous layer
 C. Undergoes shedding during menstrual cycle
 D. Surrounded by peritoneum on all sides except along the line of attachment of mesosalpinx
424. All are true about the round ligament except
 A. measures 12 cms in length
 B. Is homologous to the gubernaculum of testes
 C. Lies anterior to the obturator artery along its course
 D. Contains smooth muscles
425. All of the following are true with respect to ligation of internal iliac artery except:
 A. For hemostasis, anterior division is to be ligated
 B. Collateral circulation is established later between middle sacral and lateral sacral arteries
 C. Bleeding is always controlled with it
 D. The artery should be ligated and not transected

404. d	405. c	406. a	407. b	408. d	409. d	410. b	411. a	412. b	413. a	414. a
415. d	416. b	417. c	418. a	419. c	420. d	421. c	422. a	423. d	424. d	425. c



426. The most important indication for surgical repair of a bicornuate uterus is :

- A. Infertility
- B. Dysmenorrhoea
- C. Menorrhagia
- D. habitual abortion

427. Vaginal atresia is associated with:

- A. Uterine atresia
- B. Exostrophy of bladder
- C. Imperforate hymen
- D. Ovarian atrophy

428. Ideal age for repair of vaginal agenesis is:

- A. 6 months
- B. 3 years
- C. At puberty
- D. Before marriage

429. Ovary develop from :

- A. Mullerian duct
- B. Genital ridge
- C. Genital tubercle
- D. Mesonephric duct

430. Diagnosis of septate uterus done by: (PGI type)

- A. USG
- B. Uterine sound
- C. Hysteroscopy
- D. Hysterosalpingography
- E. Laparoscopy

431. MC congenital abnormality of uterus is

- A. Uterus didelphys
- B. Arcuate
- C. Unicornuate
- D. Septate
- E. Bicornuate

432. Complete failure of mullerian duct fusion will result in:

- A. Uterus didelphys
- B. Arcuate uterus
- C. Subseptate uterus
- D. Bicornuate uterus

433. Bicornuate uterus is due to:

- A. Incomplete fusion of uterine cavity
- B. Incomplete fusion of paramesonephric duct
- C. Incomplete fusion of mesonephric duct
- D. Incomplete formation of vagina

434. Unicollis bicornis means:

- A. Two uterine cavity with one cervix
- B. Single vagina with double uterus
- C. Incomplete septum of uterus
- D. Double uterus and double cervix

435. All of the following structures are analogous except:

- A. Labia majora and scrotum
- B. Labia minora and penile urethra
- C. Epoothron and caudal end of wolffian duct
- D. Clitoris and glans penis

436. All are derivatives of paramesonephric duct except:

- A. Appendix of testis
- B. Fallopian tube
- C. Uterus
- D. Gartner's duct

437. The triangular area bounded by fourchette and labia minora is:

- A. Fossa navicularis
- B. Fourchette
- C. Vestibule
- D. Vulva

438. Prostate glands is homologous to:

- A. Bartholin's gland
- B. Cowper's gland
- C. Skene glands
- D. Bulbourethral glands

439. TOC of Bartholin cyst:

- A. Incision and drainage
- B. Marsupialization
- C. Cystectomy
- D. Antibiotics

440. For hormonal study, sample should be taken from which wall of vagina:

- A. Anterior wall
- B. Posterior wall
- C. Lateral wall
- D. Any wall

441. Vaginal defence is lost:

- A. Within 10 days of birth
- B. After 10 days of birth
- C. During pregnancy
- D. At puberty

442. With regards to vagina all are correct except :

- A. Makes an angle of 45° with the horizontal in erect posture
- B. Looks like letter 'H' on cross section
- C. Vaginal axis lies parallel to the uterus and at right angles to the plane axis of inlet.
- D. Is lined by stratified squamous epithelium.

443. Angle of ante flexion occurs at the level of

- A. External os
- B. Internal os
- C. Cervix
- D. Isthmus

444. Cervix: corpus ratio before puberty is :

- A. 1:2
- B. 2:1
- C. 1:3
- D. 3:1

445. Longest part of fallopian tube is :

- A. Isthmus
- B. Interstitial
- C. Ampulla
- D. Fimbriae

446. Which ligament carries ovarian artery in lateral wall:

- A. Ovarian ligament
- B. Suspensory ligament of ovary
- C. Broad ligament
- D. Round ligament

447. Ovary is:

- A. Is attached to the posterior layer of the broad ligament by mesovarium
- B. Has hilus cells in the cortex
- C. Ovarian veins drain into inferior vena cava
- D. Is connected to the uterus by infundibulopelvic ligament

448. All of the following are true with respect to ligation of internal iliac artery except :

- A. For hemostasis, anterior division is to be ligated
- B. Collateral circulation is established later between middle sacral and lateral sacral arteries
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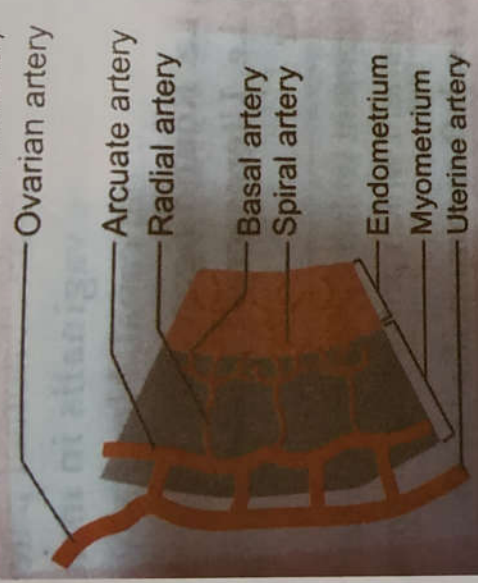
426. d	427. a	428. d	429. b	430. a,c,d,e	431. d	432. a	433. b	434. a	435. c	436. d	437. c
438. c	439. b	440. c	441. b	442. c	443. b	444. b	445. c	446. b	447. a	448. c	

449. Which of the following structures is most susceptible to unintentional damage during hysterectomy:

- A. Uterine artery
- B. Ureter
- C. Urinary bladder
- D. Urethra

450. All of the following are branches of uterine artery except:

- A. Spiral artery
- B. Radial artery
- C. Basal artery
- D. Obturator artery



451. M/C site of ureteric injury during hysterectomy:

- A. Pelvic brim
- B. Where it is crossed by uterine artery
- C. Where it enters the bladder
- D. Where it is over obturator vessels

452. All of the following support the uterus except.

- A. Uterosacral ligament
- B. Pubocervical ligament
- C. Broad ligament
- D. Cardinal ligament

453. Round ligament is supplied by:

- A. Ovarian artery
- B. Inferior iliac artery
- C. Sampson artery
- D. Vaginal artery

454. Canal of Nuck contains:

- A. Ovarian ligament
- B. Round ligament
- C. Based ligament
- D. Fallopian tube

455. The ligament which helps to keep the uterus in anteverted and anteflexed position:

- A. Round ligament
- B. Broad ligament
- C. Pubocervical ligament
- D. Cardinal ligament

456. The ligament which prevents retroversion of uterus:

- A. Round ligament
- B. Uterosacral ligament
- C. Pubocervical ligament
- D. Cardinal ligament

457.

Which of the following is formed by Mullerian duct in males?

- A. Testis
- B. Hydatid of Morgagni
- C. Seminal vesicle
- D. Epoophoron

458. The target gene for SRY which favors testis differentiation is:

- A. SOX-9 gene
- B. RS po 1 gene
- C. Dax 1 gene
- D. WNT-4 gene

459. All of the following take part in male genital tract development except:

- A. SRY
- B. SOX-9
- C. FGF-9
- D. WNT-4

460. All of the following structures are homologous except:

- A. Labia majora and scrotum
- B. Labia minora and penile urethra
- C. Epoophoron and caudal end of wolffian duct
- D. Clitoris and glans penis

461. All are derivatives of paramesonephric duct except:

- A. Appendix of testis
- B. Hydatid of morgagni
- C. Uterus
- D. Gartner's duct

462. Vertical fusion defect can result in :

- A. Septate uterus
- B. Didelphic uterus
- C. Bicornuate uterus
- D. Transverse vaginal septum

463. M/C uterine malformation associated with renal anomalies:

- A. Bicornuate
- B. Unicornuate
- C. Septate
- D. Didelphys

464. M/C uterine malformation associated with infertility

- A. Bicornuate
- B. Unicornuate
- C. Septate
- D. Didelphys

465. Diethylstilbestrol causes the following defects except :

- A. Renal anomalies
- B. Perifimbrial cysts
- C. T shaped uterus
- D. Vaginal adenosis

466. Exposure of a female fetus to androgen in early V embryogenesis may arrest differentiation of:

- A. Müllerian ducts
- B. Ovary
- C. Urogenital sinus
- D. Mesonephric ducts

467. SRY region is present on:

- A. Short arm of Y chromosome
- B. Long arm of Y chromosome
- C. Short arm of X chromosome
- D. Long arm of X chromosome

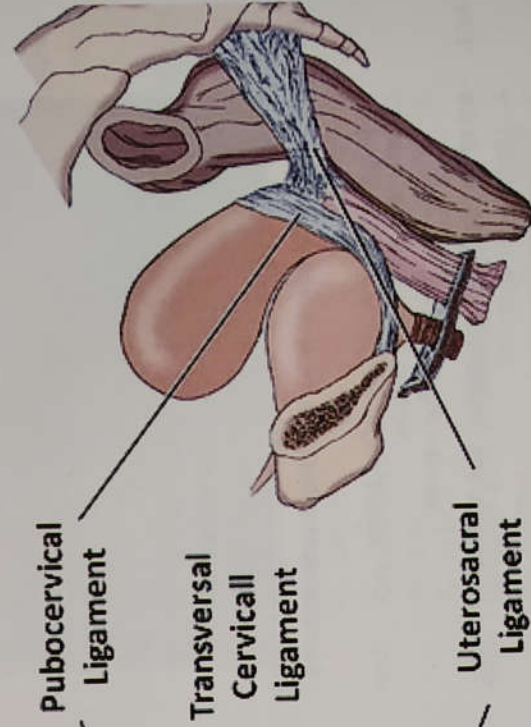
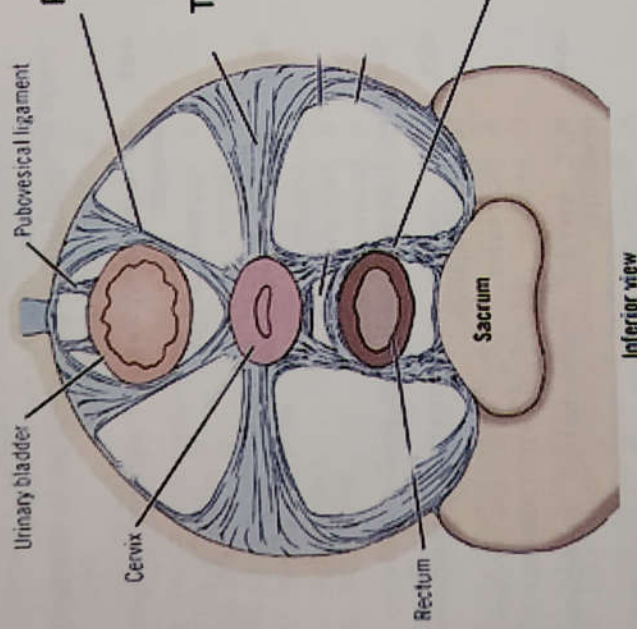
449. b	450. d	451. b	452. c	453. c	454. b	455. a	456. b	457. b	458. a	459. d	460. c
461. d	462. d	463. b	464. c	465. a	466. c	467. a					

Anatomy — Explanations

404. D. Infundibulopelvic ligament

Supports of vagina :

- Delancey introduced three level system of support
- Level I—Uterosacral and cardinal ligaments support the uterus and vaginal vault. The cervix remains at or just above the ischial spines, and the vagina lies horizontally.
- Level II—Pelvic fascias and paracolpos which connects the vagina to the white line on the lateral pelvic wall through the arcus tendineus. This includes the pubocervical fascia anteriorly and the rectovaginal fascia and septum posteriorly.



405.

C. Inferior vesical artery

The lateral relations from below upwards are

- the cavernous tissue of the vestibule;
- the superficial muscles of the perineum;
- the triangular ligament and at
- about 2.5 cm from the introitus the levator ani, lateral to which is the ischiorectal fossa.
- Above the levator lies the endopelvic cellular tissue, and its condensation, called Mackenrodt's ligament, on either side.
- The ureter traverses this tissue in the ureteric canal and is about 12 mm anterolateral to the lateral fornix.
- The vaginal branch of the uterine artery arises before the uterine artery passes vertically upward at the level of the internal os. It passes downwards through the parametrium to reach the vagina in the region of the lateral fornix.

Inferior vesicular artery is not included in relations of lateral vaginal fornix hence answer here is option C

406. A. 3.5-4.5

The vaginal secretion is acidic due to the presence of lactic acid, and this acidity inhibits the growth of pathogenic organisms. The pH of the vagina averages about 4.5 during reproductive life. The acidity, which is undoubtedly oestrogen dependent, falls after menopause to neutral or even alkaline. Before puberty, the pH is about 7.

This high pH before puberty and after menopause explains the tendency for the development of mixed organism infections in these age groups.

Best answer here will be option A

407. B. Lactobacillus

The vaginal secretion is small in amount in healthy women and consists of white coagulated material. When it is examined under the microscope, squamous cells which have been shed from the vaginal epithelium and Döderlein's bacilli alone are found. Döderlein's bacillus (lactobacilli) is a large Grampositive rod-shaped organism, which grows anaerobically on acid media. The vaginal secretion



is acidic due to the presence of lactic acid, and this acidity inhibits the growth of pathogenic organisms. They also produce hydrogen peroxide which is toxic to anaerobes.

Other flora of vagina are:

- Facultative organisms (low, non-pathogenic numbers) are :Diphtheroids, Coagulase negative staphylococci, Streptococci (groups B and D, E. coli, Ureaplasma urealyticum, Mycoplasma hominis
 - Anaerobic organisms (poor concentration) are: Peptostreptococci, Bacteroides and Fusobacterium species
- Among all these organism only lactobacilli are protective bacteria found in normal vagina

408. D. Cervix

The components of vaginal secretion are from the following:

1. The sweat and sebaceous glands of the vulva and the specialized racemose glands of Bartholin's. The characteristic odour of vaginal secretion is provided by the apocrine glands of the vulva.
2. The transudate of the vaginal epithelium and the desquamated cells of the cornified layer. This is strongly acidic.
3. The mucous secretion of the endocervical glands which is alkaline. n The endometrial glandular secretion.

All these play a varying part at different times of the menstrual cycle, the last two being most active just before menstruation. Hence the main source is cervical glands

409. D. 1:2

Utero cervix ratio :

1. Birth – 1 : 1
2. Before puberty – 1 : 2
3. After puberty – 2 : 1
4. Reproductive life – 3 : 1
5. Menopause – 1:1

Answer here will be option D that is 1:2

410. B. High columnar

The endocervix (Cervical canal) is lined by a single layer of high columnar ciliated epithelium with spindle shaped nuclei lying adjacent to the basement membrane with abundant cytoplasm and mucin. While the epithelial lining of ectocervix is non keratinised stratified squamous epithelium

411.

A. Erosion of cervix

Chronic cervicitis often manifests clinically as an erosion or as a Nabothian follicle. The cervical erosion results from the extension of the columnar endocervical epithelium beyond the external cervical os to replace the squamous epithelium covering the portio vaginalis of the cervix. Whenever the mouth of an endocervical gland opening gets blocked, it gets distended with inspissated secretion—resulting in a cystic bulge known as the **Nabothian follicle**

412.

B. A groove between labia minora and hymen

The gland measures about 10 mm in diameter and lies near the junction of the middle and posterior thirds of the labium majus. The duct of the gland is about 25 mm long and a thin mucous secretion can be expressed from it by pressure upon the gland. Its duct passes forwards and inwards to open, external to the hymen, on the inner side of the labium minus.

413.

A. Marsupialization

When duct of Bartholins gland is blocked it is known as Bartholin's cyst. It is present in posterolateral wall of vagina. It can be differentiated from Gartner's duct cyst which is present in Anterolateral wall of vagina

- If the cyst is asymptomatic no treatment is required while in symptomatic cases treatment of choice is **Marsupialisation**
- If the age of person is >40yrs then excision of cyst should be done as beyond this age Bartholins cancer can occur
- If the swelling is tender then mostly it is Bartholins abscess- treatment of choice in such cases is incision and drainage. Most common organism causing abscess is E.coli and gonorrhoea.

Hence answer here is option A

414.

A. Interstitial portion

The fallopian tube measures 4 inch (10 cm) or more in length and approximately 8 mm in diameter, but the diameter diminishes near the cornu of the uterus to 1 mm. The fallopian tube is divided anatomically into four parts:

1. The interstitial portion is the innermost part of the tube which traverses the myometrium to open into the endometrial cavity. It is the shortest and narrowest part of the tube measuring 2cm in length and 0.7mm in diameter
2. The isthmus part measures 3cm in length and 1mm in diameter
3. The ampulla being the widest part measures 5cm in length and 6mm in diameter
4. While the fimbriated extremity or infundibulum is where the abdominal ostium opens into the peritoneal cavity.

Hence answer here is option A

415.

D. Tubes

The epithelium of the mucous membrane consists of three types of cells:

1. The most common is ciliated, and is either columnar or cubical in type. Its function is to propel a fluid current towards the uterus and plays some part in the transport of the inert ovum which, unlike the sperm, has no motile power of its own.
2. Next in order of frequency is a goblet-shaped cell, not ciliated, which does not give the histochemical reactions for mucin. Its function is lubricant and possibly nutritive to the ovum.
3. A cell intermediate in type to the two already mentioned can be distinguished, and small rod-



shaped cells are also present. These are the so-called peg cells whose purpose is not known. It is resting cells of fallopian tube

416. B. 10-12 cm

417. C. Internal iliac

The uterine artery arises from the anterior trunk of the internal iliac (or hypogastric artery)

418. A. Endoderm of urogenital sinus

The vagina is developed from the following sources:
(a) Upper 4/5th, above the hymen—the mucous membrane is derived from endoderm of the canalized sinovaginal bulbs. The musculature is developed from the mesoderm of two fused Müllerian ducts.
(b) Lower 1/5th, below the hymen is developed from **the endoderm of the urogenital sinus**. (c) External vaginal orifice is formed from the genital fold ectoderm after rupture of the urogenital membrane.

419. C. Intramural

The isthmus comprises the next and inner part of the tube and represents about one-third of the total length, i.e. 35 mm. It is narrow but a little wider than the interstitial part and its lumen has a diameter of 2 mm. Its muscle wall contains both longitudinal and circular fibres hence act as **anatomical sphincter** of fallopian tube and it is covered by peritoneum except for a small inferior bare area related to the broad ligament. It is relatively straight.

420. D. The broad ligament terminates at its anterior end

Labia majora

- It is homologous to scrotum in males
- Drains into superficial inguinal lymph nodes, while labia minora into deep inguinal Ln
- The labia majora pass from the mons veneris to end posteriorly in the skin over the perineal body.
- The blood vessels of the perineum and external genitalia are derived from the internal pudendal artery, a terminal branch of the anterior division of the internal iliac artery and its anastomosis with Branches of femoral artery—superficial and deep external pudendal

- Round ligament starts from upper end of uterus goes into deep inguinal ring passing via inguinal canal and into superficial inguinal ring finally terminates into labia majora

Hence its round ligament and not the broad ligament which terminates into labia majora so answer here is option D

421. C. Vaginal axis lies parallel to the uterus and at right angles to the plane axis of inlet

- The vaginal canal is directed upwards and backwards forming an angle of 45° with the horizontal in erect posture.
- The long axis of the vagina almost lies parallel to the plane of the pelvic inlet and at right angles to that of the uterus.
- The anterior and posterior walls are opposed together but the lateral walls are comparatively

stiffer especially at its middle, as such, it looks "H" shaped on transverse section

- mucous coat which is lined by stratified squamous epithelium without any secreting glands
- hence answer here is option C which is incorrect statement

422. A. Is attached to the posterior layer of the broad ligament by mesovarium

- The ovary is attached to the posterior layer of the broad ligament by the mesovarium, to the lateral pelvic wall by the infundibulopelvic ligament and to the uterus by the ovarian ligament.
- Cortex consist of stromal cells which are thickened beneath the germinal epithelium to form tunica albuginea. During reproductive period (i.e., from puberty to menopause) the cortex is studded with numerous follicular structures, called the functional units of the ovary, in various phases of their development. The structures include primordial follicles, maturing follicles, Graafian follicles and corpus luteum.
- Medulla consists of loose connective tissues, few unstriated muscles, blood vessels and nerves. There is a small collection of cells called "hilus cells" which are homologous to the interstitial cells of the testes.
- Arterial supply is from the ovarian artery, a branch of the abdominal aorta. Venous drainage is through pampiniform plexus, to form the ovarian veins which drain into inferior vena cava on the right side and left renal vein on the left side

Hence answer here is option A

D. Surrounded by peritoneum on all sides except along the line of attachment of mesosalpinx

Fallopian tube consists of three layers—

1. Serous: consists of peritoneum on all sides except along the line of attachment of mesosalpinx,
2. Muscular: arranged in two layers outer longitudinal and inner circular,
3. Mucous membrane has three different cell types and is thrown into longitudinal folds. The epithelium rests on a delicate vascular reticulum of connective tissue

Mucous membrane is lined by: (i) Columnar ciliated epithelial cells that are most predominant near the ovarian end of the tube. These cells **compose 25% of the mucosal cells**, (ii) Secretory columnar cells are present at the isthmus segment and compose 60% of epithelial cells, (iii) Peg cells are found in between the above two cells. They are the variant of secretory cells. Fallopian tube doesn't undergo shedding during menstrual cycle

424. D. Contains smooth muscles

Round ligament

- The round ligament passes down the inguinal canal and finally ends by becoming adherent to the skin of the labia majora.
- Length of ligament is 12 cms
- correspond developmentally to the gubernaculum testis



- The round ligaments are supplied by a branch of the ovarian artery derived from its anastomosis with the uterine artery, hence the necessity for ligation of the round ligament during hysterectomy.
- The ligament consist of plain muscle and connective tissue and vary considerably in thickness

425. C. Bleeding is always controlled with it

426. D. habitual abortion

427. A. Uterine atresia

The lower ends of the Müllerian ducts terminate in the urogenital sinus, into the posterior part of which they project as a solid Müllerian tubercle. Around this Müllerian tubercle, there is a solid proliferation of the urogenital sinus on each side, called the sinovaginal bulbs. By canalization of the sinovaginal bulbs, the lower quarter to one-third of the vagina is formed. The vagina is therefore developed in its upper threequarters from the fused Müllerian ducts. The vertical fusion between the Müllerian systems and the sinovaginal bulb results in the formation of the vaginal canal. The uterus fallopian tube and most of the vagina is derived from müllerian duct. Hence both uterus and part of vagina develops from müllerian system so vaginal atresia is associated with yterine atresia

428. D. Before marriage

Treatment for vaginal agenesis often occurs in late teens or early 20s, repair is done by McIndoe procedure

429. B. Genital ridge

Ovary starts to develop by the fifth week. The ovarian differentiation is determined by the presence of a determinant located on the gene of the short arm of X-sex chromosome though the autosomes are also involved in the ovarian development. Two intact sex chromosomes (XX) are necessary for the development of the ovaries. The genital ridge extends from the pronephric region above to the sacral region below and, in its earliest form, is represented by an elongated vertical prominence. Genital ridge results in development of ovary

430. A. USG, C. Hysteroscopy, D. Hysterosalpingography, E. Laparoscopy

Diagnosis of septate uterus

- Combined hysteroscopy and laparoscopy help to differentiate between bicornuate uterus and septate uterus. The presence of the uterine fundus suggests a septate uterus.
- Ultrasonography—septate uterus appears as two cavities without sagittal notching and the intercornual distance, 4.0 cm. Diagnosis of bicornuate uterus is favoured, if the fundal midpoint indentation is .5 mm above the inter-ostial line.
- Hysterosalpingography (HSG)—cannot reliably differentiate between septate and a bicornuate/

arcuate uterus. If the angle of divergence between the two uterine cavities is 75° , the defect is most likely to be septate uterus. If the angle of divergence is 75° but 105° a diagnosis cannot be made.

- Magnetic resonance imaging (MRI)—it is an accurate and noninvasive investigation to make a diagnosis of septate uterus. If the septum extends to 30% of the septal cavity, surgical resection is indicated

431. D. Septate

Unicornuate uterus accounts for 1–2% of all uterovaginal anomalies and is often associated with a poor reproductive performance. While bicornuate uterus is present in 25% of cases Septate uterus is most common. It is associated with higher incidence of pregnancy wastage About 25% incidence of spontaneous first trimester abortions, 6% second trimester abortions.

432. A. Uterus didelphys

A symmetric lateral fusion defect results in each Müllerian duct developing independently side by side without communication leading to the formation of double uterus. Each duct forms one cervix, one uterus and one fallopian tube on either side. The duplication may go right down the vagina (part derived from Müllerian ducts) as well. Such complete duplication of the uterus is often referred to as 'uterus didelphys'

433. B. Incomplete fusion of paramesonephric duct

Bicornuate uterus is due to incomplete fusion of paramesonephric duct

434. A. Two uterine cavity with one cervix

Unicollis – means one cervix

Bicornis – two uterine cavity

435. C. Epoochyon and caudal end of wolffian duct

Structure analogs:

1. Genital tubercle- Penis-----Clitoris
2. Urogenital folds- Corpora spongiosa----- Labia minora
3. Genital folds- Scrotum -----Labia majora
4. Urogenital sinus --Prostrate Cowper's glands
--- Lower vagina Skene's tubercles & bartholins gland

While epoophyon is organ of rosenmuller is remanant of mesonephric duct and not related to wolffian duct

436. D. Gartners duct

Derivates of paramesonephric duct are:

- Hydatid testis (in males)
- Fallopian tubes, uterus and upper three-fourths of vagina (females)

While gartners duct develops from mesonephric duct

437. C. Vestibule

Vestibule is the triangular area bounded anteriorly by the clitoris, posteriorly by Fourchette and on either side by labia minora.

**438. C. Skene glands**

Glands in males	Homologous females	glands in
Prostate gland	Skene glands	glands/paraurethral
Cowper's gland	Bartholin gland	
Glands of litre (in penile urethra)	Glands of labia majora Glands of labia minora	

439. B. Marsupialization

TOC for Bartholin cyst—Marsupialization.

TOC for Bartholin abscess—Incision and drainage.

440. C. Lateral wall

Vaginal study gives a fair idea about the hormonal status and, in turn, about ovulation/ovarian cycle.

- For hormonal study, sample should be taken from: Lateral wall

441. B. After 10 days of birth

Vaginal defence is lost at 10 days after birth. The maternal estrogen circulating the newborn maintains the vaginal defence for 10 days. Thereafter it is lost upto pre-puberty and after menopause. High level of circulating estrogen increase the vaginal defence during puberty, pregnancy and in premenstrual phase.

442. C. Vaginal axis lies parallel to the uterus and at right angles to the plane axis of inlet

The canal is directed upwards and backwards forming an angle of 45° with the horizontal in erect posture. The long axis of the vagina almost lies parallel to the plane of the pelvic inlet and at right angles to that of the uterus (not vice versa). Vagina has got an anterior, a posterior, and two lateral walls. The anterior and posterior walls are apposed together but the lateral walls are comparatively stiffer especially at its middle, as such it looks 'H' shaped on transverse section.

443. B. Internal os.

Angle of antelexion between uterus and cervix, at internal os.

444. B. 2:1**445. C. Ampulla**

Fallopian tube

Longest part	Ampulla
Widest part	Ampulla
Narrowest part	Interstitial
2nd Narrowest part	Isthmus
Anatomical sphincter	Interstitial
Physiological sphincter	Isthmus

446. B. Suspensory ligament of ovary

The suspensory ligament of ovary (infundibulopelvic ligament) contains the ovarian artery, veins and nerves.

447.**A. Is attached to the posterior layer of the broad ligament by mesovarium**

- Ovary measures about 3 cm in length, 2 cm in breadth and 1 cm in thickness. The ovaries are intraperitoneal structures. In nulliparae, the ovary lies in the ovarian fossa on the lateral pelvic wall. The ovary is attached to the posterior layer of the broad ligament by the mesovarium, to the lateral pelvic wall by infundibulopelvic ligament and to the uterus by the ovarian ligament.
- The substance of the gland consists of outer cortex and inner medulla.
- Medulla : It consists of loose connective tissues. There are small collection of cells called "hilus cells" which are homologous to the interstitial cells of the testes.
- Arterial supply is from the ovarian artery.
- Venous drainage is through pampiniform plexus, to form the ovarian veins which drain into inferior vena cava on the right side and left renal vein on the left side.
- Sympathetic supply comes down along the ovarian artery from T10 segment. Ovaries are sensitive to manual squeezing.

448. C. Bleeding is always controlled with it

Only the anterior division of internal iliac artery supplies the pelvic viscera and hence should be ligated for controlling severe PPH. The artery should not be transected. Hemostasis is effective due to temporary lowering of pulse pressure by 85%. On ligation of internal iliac artery → collateral circulation develops between systemic arteries and internal iliac artery.

Ligation of internal iliac artery and development of collateral circulation			
Systemic artery			Internal iliac artery
Lumbar (aorta) →	with		← Iliolumbar
Middle sacral (aorta) →	with		← Lateral sacral
Superior rectal (inferior mesenteric) →	with		← Middle rectal
Ovarian (aorta) →	with		← Uterine

Bleeding does not always stop after ligation due to presence of aberrant vessels or it could be venous bleeding.

449. B. Ureter

M/C structure to be damaged during hysterectomy ureter

M/C site of ureteric injury—where it crossed by uterine artery.

2nd M/C of ureteric injury—at the pelvic brain

450. D. Obturator artery

Branches of uterine artery are:

To the uterus:

- A = Arcuate artery
- R = Radial artery
- B = Basal artery
- S = Spiral artery
- To the cervix
- Descending cervical artery

B. Where it is crossed by uterine artery

- Site of ureteric injury during hysterectomy
- 1st M/C = where it is crossed by uterine artery
 - 2nd M/C = Near pelvic brim

C. II. Broad ligament

Broad ligament does not support the uterus.

C. Sampson artery

Round ligament is supplied by sampson artery.

B. Round ligament

The canal of nuck is an abnormal patent pouch of peritoneum extending into the labia majora of women. It is analogous to patent processes vaginalis in males. It is attached to the uterus by the round ligament through the internal inguinal ring into the inguinal canal. Normally it obliterates and disappears by 1st year of life.

A. Round ligament

B. Uterosacral ligament

B. Hydatid of Morgagni

Remnants of Mullerian duct (paramesonephric duct) in males are :

- Prostatic utricle
- Appendix of testis (Hydatid of Morgagni)

A. SOX-9 gene

The target gene for SRY which favours testis differentiation is SOX-9 gene.

The genes which favour ovary differentiation are :

WnT4

Rspo 1

Dax 1

D. WNT-4

Genes for male development

SRY gene	Master Gene for testis development
SOX 9	SRY and SOX 9 induce testis to form FGF-9 (chemotactic factor). FGF-9 causes tubules from mesonephric duct to penetrate gonadal ridge
SF1 (steroidogenesis factor)	It stimulates differentiation of sertoli or leydig cells

WNT-4 is ovary determining gene. This gene upregulates DAXI which inhibits the function of SOX 9 in females.

- 460. C. Epophoron and caudal end of wolffian duct**
Epophoron is the remnant of cranial end of wolffian duct and not caudal end. Also it is a remnant, not homologous organ.

- 461. D. Gartner's**

Gartner's duct is a remnant of Wolffian duct (mesonephric duct) in females and not paramesonephric duct (Mullerian duct). Hydatid of morgagni is a term used both for Appendix of testis in males and kobelt tubercle in females.

- 462. D. Transverse vaginal septum**

Vertical fusion defect results in Transverse Vaginal Septum.

- 463. B. Unicornuate**

"Approximately 40% of patients with a unicornuate uterus will have a urinary tract anomaly (usually of kidney)".

- 464. C. Septate**

"The only form of malfusion deformity which may lower fertility significantly is a fully Septate vagina".

- 465. A. Renal anomalies**

Diethylstilbestrol exposure in utero leads to varied anomalies of female genital tract.

"Unlike all other congenital uterine malformations, the DES uterus is not associated with an increase in renal anomalies"

In males it leads to- hypospadias cryptorchidism, testicular hypoplasia.

Other important points :

Uterine anomalies = MIC : Hypoplastic uterus

Most characteristic = T shaped uterine cavity

In males it leads to

- Hypospadias
- Cryptorchidism
- Testicular hypoplasia

- 466. C. Urogenital sinus**

- 467. A. Short arm of Y chromosome**

Reproductive Physiology, Endocrinology and Menopause — Questions

- 468.** In ovarian cycle increased levels of LH are due to:
A. Increased Progesterone
B. Increased Estrogen
C. Increased FSH
D. Increased Androgens
- 469.** In 40 days of menstrual cycle the ovulation occurs at:
A. 14th day
B. 20th day
C. 26th day
D. 30th day
- 470.** The ovarian cycle is initiated by:
A. FSH
B. Estrogen
C. LH
D. Progesterone
- 471.** The corpus luteum secretes:
A. Estrogens
B. Progesterone
C. Both
D. None
- 472.** Apoptosis can occur by change in hormone levels in the ovarian cycle. When there is no fertilization of the ovum, the endometrial cells die because:
A. The involution of corpus luteum causes estradiol and progesterone levels to fall dramatically
B. LH levels rise after ovulation
C. Estradiol levels are not involved in the LH surge phenomenon
D. Estradiol inhibits the induction of the progesterone receptor in the endometrium
- 473.** Maximum function of corpus luteum occurs:
A. At ovulation
B. Before ovulation
C. 3 days after ovulation
D. 8-9 days after ovulation
- 474.** Ovulation occurs
A. Before LH surge
B. After biphasic rise in body temperature
C. After ripening of follicle by FSH
D. Before estrogen peak
- 475.** True about timing of LH surge:
A. Occur 12 hour before ovulation
B. Occur 24 hour before ovulation
C. Occur 12 hour after ovulation
D. Occur 24 hour after ovulation
E. Occur at time or ovulation
- 476.** Which of the following is not related with menstrual cycle:
A. Hormonal changes
B. Vaginal cytology
C. Estrous cycle
D. Endometrial sampling
- 477.** Naturally occurring estrogens are: (PGI type)
A. Estrone
B. Estradiol
C. Estril
D. Diethylstilbesterol
E. Pregnanediol
- 478.** The production of cervical mucus is stimulated by:
A. Progesterone
B. Estradiol
C. Estriol
D. Pregnenolone
- 479.** Ferning of cervical mucus depends on:
A. Estrogen
B. Progesterone
C. LH
D. FSH
- 480.** In an infertile woman, endometrial biopsy reveal proliferative changes. Which hormone should be preferred?
A. MDPA
B. Desogestrol
C. Norethisterone
D. None of the above
- 481.** End product of progesterone metabolism found in urine is:
A. Pregnanolone
B. 17-OH pregnanediol
C. Pregnanediol
D. Pregnanetriol
- 482.** Following are the features of inhibin except:
A. Non steroidal water soluble protein
B. Secreted by Graffian follicle
C. Stimulates FSH secretion
D. Increased secretion of inhibin occurs in polycystic ovarian disease
- 483.** The probable source of relaxin is:
A. Ovary
B. Adrenal cortex
C. Bartholins gland
D. Anterior pituitary
- 484.** The following are related to granulosa cells except:
A. It has got no blood supply
B. In the first half of the cycle, it has no steroidogenic function
C. Granulosa cells produce activin and inhibin
D. Estrogen stimulates the proliferation of granulosa cells
- 485.** The following are related to corpus luteum except:
A. Luteinised granulosa cells produce progesterone
B. Estrogen continues to be produced by the luteinized theca cells
C. Luteolysis is due to estrogen, PGF2a and endothelin
D. The peak steroid production is between 23 and 25th day
- 486.** Granulosa cells produces estrogen with the help of the enzyme.
A. Alkaline phosphatase
B. Aromatase
C. Acid phosphatase
D. Glucuronidase
- 487.** Peak level of plasma progesterone in the luteal phase:
A. 5 ng/ml
B. 10 ng/ml
C. 15ng/ml
D. 30 ng/ml

468. b	469. c	470. a	471. c	472. a	473. d	474. c	475. b	476. c	477. a,b,c	478. b	479. a
480. a	481. c	482. c	483. a	484. b	485. d	486. b	487. c				



- 488. The earliest morphological evidence of ovulation on endometrial biopsy is:**
 A. Pseudostratification
 B. Basal vacuolation
 C. Decrease in glycogen content
 D. Predecidual reaction
- 489. Estrogen administration in a menopausal woman increases the:**
 A. Gonadotropin secretion
 B. LDL-cholesterol
 C. Bone mass
 D. Muscle mass
- 490. All of the following are the advantages of using Raloxifene over estrogen in post menopausal women except:**
 A. Reduces fracture rates
 B. Avoids endometrial hyperplasia
 C. Reduces the incidence of venous thrombosis
 D. No increase in incidence of breast carcinoma
- 491. A 48-year-old female suffering from severe menorrhagia (DUB) underwent hysterectomy. She wishes to take hormone replacement therapy. Physical examination and breast are normal but X-ray shows osteoporosis. The treatment of choice is:**
 A. Progesterone
 B. Estrogen and progesterone
 C. Estrogen
 D. None
- 492. Basanti devi 45 years old women presents with hot flushes after stopping of menstruation, 'Hot Flush' can be relieved by administration of following agents:**
 A. Ethiny estradiol
 C. Fluoxymesteron
 B. Testosterone
 D. Danazol
- 493. All the following appear to decrease hot flushes in menopausal women except:**
 A. Androgens
 C. Isoflavones
 B. Raloxifene
 D. Tibolone
- 494. Absolute contraindication of hormone replacement therapy is:**
 A. Thrombosis
 C. Fibroadenoma
 B. Fibrocystic disease
 D. Hemorrhage
- 495. SRY gene is located on:**
 A. Short arm of Y chromosome
 B. Long arm of Y chromosome
 C. Short arm of chromosome
 D. Long are of X chromosome
- 496. The first sign of puberty in girls is:**
 A. Breast budding
 B. Growth Spurt
 C. Menarche
 D. Pubic and axilaary hair growth
- 497. Which of the following pubertal events in girls is not estrogen dependant:**
 A. Menstruation
 B. Vaginal cornification
 C. Height spurt
 D. Hair growth
- 498. Which of the following is responsible for pubertal growth in females?**
 A. Decreased level of adrenal androgens at puberty
 B. High level of estrogen at puberty
 C. Pulsatile release of GnRH during sleep
 D. Increased sensitivity of HPO axis to estrogen
- 499. One of the following forms the basis for sex chromatin testing?**
 A. Barr body
 B. Testosterone receptors
 C. Hormone levels
 D. Phenotypic features
- 500. A 9 year old girl presents with menarche. History reveals thelarche at the age of 7 years and adrenarche at the age of 8 years-the M/C cause of this condition in girls is:**
 A. Idiopathic
 B. Gonadal tumor
 C. Mc cure albright syndrome
 D. Hypothyroidism
- 501. Medication used in treatment of idiopathic central precocious puberty is:**
 A. Exogenous gonadotrophins
 B. Ethinyl estradiol
 C. Exogenous GnRH analogues
 D. Hypothyroidism
- 502. Most common cause of ambiguous genitalia in a female child is:**
 A. Placenta steroid sulfatase deficiency
 B. Fetal aromatase deficiency
 C. Wnt4 mutation
 D. Congenital adrenal hyperplasia
- 503. Most common cause of female pseudohermaphroditism is:**
 A. Virilizing ovarian tumor
 B. Ovarian dysgenesis
 C. Exogenous androgen
 D. Congenital adrenal hyperplasia
- 504. Female pseudohermaphroditism ture is: (PGI)**
 A. 46xx chromosomal pattern
 B. Absent ovary
 C. Absent uterus
 D. Presence of testis
 E. Clitoromegaly
- 505. The treatment for a case of virilizing adrenal hyperplasia is:**
 A. Estrogens
 C. ACTh
 B. Antiandrogens
 D. Cortisone

488. b	489. c	490. c	491. c	492. a	493. b	494. a	495. a	496. b	497. d	498. b	499. a
500. a	501. c	502. d	503. d	504. a,e	505. d						



506. A newborn with 46XX has external genitalia of male. All the following are the possible causes except:

- A. Placental aromatase deficiency
- B. Maternal androgen adrenal tumor
- C. Anti mullerian hormone deficiency
- D. Wnt 4 mutation

507. Rise in body temperature after ovulation is due to :

- A. Estrogen
- B. Progesterone
- C. LH
- D. FSH

508. Just before ovulation there is:

- A. LH surge
- B. FSH surge
- C. LH and FSH surge
- D. None

509. The following are related to granulosa cells except:

- A. It has got no blood supply
- B. In the first half of the cycle, it has no steroidogenic function
- C. Granulosa cells produce activin and inhibin
- D. Estrogen stimulates the proliferation of granulosa cells

510. All of the following statements are correct except:

- A. LH surge is initiated due to sustained levels of 200 pg of estrogen for 48 hours
- B. LH surge is maintained by estrogen and progesterone both
- C. Meiosis I is hormone dependant
- D. Meiosis II is hormone dependant

511. Maximum progesterone synthesis occurs on — day of the cycle

- A. 16th day
- B. 20th day
- C. 22nd day
- D. 24th day

512. All are true regarding folliculogenesis and ovulation except:

- A. Chronic elevation of androgens is detrimental to the follicles
- B. AMH supports monofollicular development
- C. First phase of follicular growth is gonadotropin insensitive
- D. Elevated and static level of estradiol is essential for ovulation.

513. The following are related to corpus luteum except:

- A. Luteinised granulosa cells produce progesterone
- B. Estrogen continues to be produced by the luteinised theca cells
- C. Luteolysis is due to estrogen, PGF2α and endothelin
- D. The peak steroid production is between 23rd and 25th day

514. The earliest morphological evidence of ovulation on endometrial biopsy is:

- A. Pseudostratification
- B. Basal vacuolation
- C. Decrease in glycogen content
- D. Predecidual reaction

515. All of the following statements are correct except:

- A. Menstrual blood is mainly arterial
- B. Prostaglandin released at the time of menstruation is PGE2
- C. Zona basalis regenerates the endometrium during next cycle
- D. Anovulatory cycles are painless

516. Peak level of plasma progesterone in the luteal phase:

- A. 5ng/mL
- B. 10ng/mL
- C. 15 ng/mL
- D. 30ng/mL

517. On examination of endometrial tissues obtained from a biopsy reveals simple columnar epithelium with no subnuclear vacuoles. The stroma is edematous and a tortuous gland contains secretions. Thus findings are consistent with which stage of menstrual cycle?

- A. Non ovulatory cycle
- B. Mid secretory
- C. Early secretory
- D. Late proliferative phase

518. Pulsatile GnRH is used for managing:

- A. Precocious puberty
- B. Fibroid
- C. DUB
- D. Anovulatory infertility

519. All of the following changes are seen in puberty except:

- A. ↑ Leptin
- B. ↓ GABA
- C. ↑ Glutamate
- D. ↑ Neuropeptide Y

520. All of the following statements are true regarding estrogen except:

- A. Responsible for pre-ovulatory LH surge
- B. Causes negative feedback on FSH
- C. Produces proliferative endometrium
- D. Secreted by theca cells

521. Sensitivity of uterine musculature is:

- A. Enhanced by Estrogen
- B. Enhanced by Progesterone
- C. Enhanced by E and inhibited by P
- D. Enhanced by P and inhibited by E

522. The decreasing order of potency of estrogen is:

- A. E₁, E₂, E₃
- B. E₁, E₃, E₂
- C. E₁, E₃, E₂
- D. E₂, E₁, E₃

523. 3rd generation progesterone includes all except:

- A. Desogestrel
- B. Norgestrol
- C. Norgestimate
- D. Gestodene

506. c	507. b	508. c	509. b	510. d	511. c
518. d	519. d	520. d	521. c	522. d	523. b

512. d	513. d	514. b	515. b	516. c	517. b
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524. A sample of cervical mucus is taken on Day 12 of the menstrual cycle: The mucus is thin, clear, elastic. It is placed on a slide and allowed to air dry. When placed under microscope, what would you expect:
A. Clear field devoid of bacteria
B. Thick mucus with back ground bacteria
C. A fern pattern characteristic of estrogen
D. Clearly defined parabasal cells
525. Major sources of androgen in females are all except:
A. Adrenals
B. Ovaries
C. Peripheral conversion to androgen precursors in the liver, gastro-intestinal tract and adipose tissue
D. Corpus luteum
526. Vaginal smear in old lady shows:
A. Atrophic cells on smear
B. Basal and parabasal cells
C. Superficial cells
D. Few intermediate cells seen
527. The maturation index on vaginal cytology is a diagnostic method for evaluating the:
A. Adequacy of cytotoxic drug therapy
B. Gender of an anatomically abnormal child
C. Malignant change at squamo columnar junction of cervix
D. Endocrine status of cervix
528. Cornification index or eosinophilic index indicates:
A. Progesterone effect
B. Estrogenic effect
C. Effect of LH
D. All of the above
529. Main source of testosterone in females is:
A. Adrenal gland
B. Ovary
C. Both a and b
D. Peripheral conversion of androstenedione
530. False statement regarding spasmodic dysmenorrhea is:
A. Often cured by delivery of a child
B. Pain usually appears on the first day of menstruation
C. Pain persists for 3-5 days
D. Rare above age of 35 years
531. A 20-year-old woman gives a history of sharp pain in the lower abdomen for 2-3 days every month approximately 2 weeks before the menses. The most probable etiology for her pain is:
A. Endometriosis
B. Dysmenorrhea
C. Pelvic tuberculosis
D. Mittelschmerz syndrome
532. Which of the following modalities have shown best result for pre menstrual syndrome?
A. SSRI
B. Progesterone
C. Oestrogen
D. Anxiolytics
533. Marker for perimenopause transition is:
A. Menstrual irregularity
B. Hot flushes
C. ↓ bone mass
D. Cessation of menstruation
534. Perimenopause age of a female is from:
A. 30-49 years
B. 35-49 years
C. 39-51 years
D. 40-60 years
535. Main estrogenic hormone in postmenopausal females is:
A. Estradiol
B. Estrone
C. Estril
D. Estetrol
536. DOC to treat decreased libido in menopausal females:
A. Estrogen
B. Estrogen + Progesterone
C. Androgens
D. Progesterone
537. Which of these is diagnostic of menopause?
A. Serum FSH > 40
B. Serum LH > 20
C. Serum FSH < 40
D. Serum estradiol < 30
538. Precocious puberty may be seen in all of the following conditions except:
A. Granulosa - cell tumour
B. Head - injury
C. Corticosteroid intake
D. Hyperthyroidism
539. Precocious puberty associated with bony dysplasia and café au lait spots in skin is seen in:
A. Frohlich's syndrome
B. Alports syndrome
C. McCune-Albright syndrome
D. Laurence-Moon-Biedl syndrome
540. What is the first sign of puberty in a girl?
A. Thelarche
B. Menarche
C. Adrenarche
D. Pubarche
541. One of the following forms the basis for sex chromatin testing:
A. Barr body
B. Testosterone receptors
C. Hormone levels
D. Phenotypic features

524. c	525. d	526. b	527. d	528. b	529. d	530. c	531. d	532. a	533. a	534. c	535. b
536. c	537. a	538. d	539. c	540. a	541. a						



542. What is the drug of choice for precocious puberty in girls?

- A. GnRH analogues
- B. Cyproterone acetate
- C. Danazol
- D. Medroxyprogesterone acetate

543. The secretion of FSH in a male is inhibited by negative feedback effect of:

- A. Inhibin secreted by Sertoli cells
- B. Inhibin secreted by Leydig cells
- C. Testosterone secreted by Sertoli cells.
- D. Testosterone secreted by Leydig cells

544. A 15-year-old girl, complains of heavy periods

since 2 months. O/E: wt 40 kg and BP 120/80 mm Hg. All of the following investigations are indicated, except:

- A. S. TSH
- B. Platelet count
- C. Bleeding and clotting time
- D. Estradiol levels

545. Which of the following is responsible for pubertal growth in females?

- A. Decreased level of adrenal androgens at puberty
- B. High level of estrogen at puberty
- C. Pulsatile release of GnRH during sleep
- D. Increased sensitivity of HPO axis to estrogen

542. a

543. a

544. d

545. b

Reproductive Physiology, Endocrinology and Menopause — Explanations

468. B. Increased Estrogen

In ovarian cycle- LH and FSH levels are dependent on levels of estrogen and progesterone

- Increased level of estrogen always causes inhibitory effect on FSH
 - While effect on LH depends upon level of estrogen present ; if the estrogen level is less than it will have inhibitory effect on LH while increased level of Estrogen will have stimulatory effect on LH
 - Likewise low doses of progesterone stimulates both LH & FSH While high levels inhibit both
- This phenomenon of negative and positive feedback is known as neuroendocrinal phenomenon

469. C. 26th day

Menstrual cycle always starts after 14days of ovulation so in 40 days cycle ovulation will be on $(40 - 14 = 26)$

Calculated as days of cycle - 14 = day of ovulation

470. A. FSH

471. C. Both

The corpus luteum secretes progesterone, the level of which starts rising. The hormone progesterone has two functions. In the first place, it stimulates the endometrium to undergo secretory hypertrophy, and secondly, it inhibits further production of LH by the anterior pituitary.

Natural oestrogens are C18 steroids, the main source of which are the theca and granulosa cells of the Graafian follicles and corpus luteum, while the adrenal cortex is the secondary source of supply. Hence corpus luteum secretes both estrogen and progesterone

472. A. The involution of corpus luteum causes estradiol and progesterone levels to fall dramatically

Menstruation is brought about by the fall in the levels of oestrogen and progesterone following the degeneration of the corpus luteum.

- Ovulation occur due to peak in level of LH (LH surge) n post ovulation level of LH starts declining due to inhibitory effect of progesterone on LH
 - Increased level of estrogen causes stimulatory effect on LH hence plays an imp role in LH surge
 - Progesterone induces secretory changes only if the endometrium is primed by oestrogen, which produces progesterone receptors in the endometrial cells
- So answer here is option A

473. D. 8-9 days after ovulation

The corpus luteum reaches maximum maturity by the 22nd day of the normal cycle, when it attains the size of 2 cm or more. 22nd day of cycle corresponds to (22-14) 8th day after menstruation hence answer here is option D

474. C. After ripening of follicle by FSH

The cyclical release of gonadotropins, FSH first and later LH which induces ovulation.

Changes before ovulation :

- Increase in FSH occur in response to pulsatile increase in GnRh (low) which eventually marks onset of follicular phase and further increases oestrogen and inhibin b, and selection of dominant follicle occurs, increase estrogen causes LH surge which causes ovulation
- FSH helps in final phase of breakdown of collagen during ovulation
- Levels of FSH and LH both increases before ovulation
- FSH peak causes small increase in progesterone, it begins 36 hrs before ovulation
- Oestrogen peak also occur 36 hrs before ovulation.

Hence answer here is option C

475. B. Occur 24 hour before ovulation

- LH surge (when level start rising) occurs 36 hrs before ovulation
- LH peak (when level is maximum) occurs 12 hrs before ovulation.
- Initiation of LH surge is due to high level of estrogen while maintenance of LH surge is because of both progesterone and estrogen

476. C. Estrous cycle

Oestrus cycle is period of sexual cycle of female mammals except higher primates hence it is not realted to menstrual cycle which is seen in humans While all other options are related to menstrual cycle including hormonal changes in vaginal cytology and endometrial changes

477. A. Estrone, B. Estradiol, C. Estriol

Estrogen are divided into two categories:

1. Naturally occurring
2. Synthetic

Natural estrogen:

- Estrole- predominantly occurring in post menopausal phase, come for peripheral conversion of androsteinedione
 - Estradiole - synthesis occurs from theca cells, predominant in reproductive age group
 - Estriole - predominant in pregnancy
- Synthetic Estrogen :
- Ethinyl estradiole
 - Conjugated equine estrogen

478. B. Estradiol

Estradiol causes Stimulant effect on the glands of the endocervix and further causes mucous secretion while Progesterone causes hypertrophy of the cervix and makes the cervical mucus more tenacious

479. A. Estrogen

The ferning is due to the presence of sodium chloride in the mucus secreted under oestrogen



effect. The physical character of cervical mucus also alters with the date of the cycle. At the time of ovulation, the cervical mucus is thin and profuse that the patient may notice a clear discharge, the so-called normal ovulation cascade. This ovulation mucus has the property of great elasticity and will withstand stretching up to 10 cm. phenomenon is called spinnbarkeit or the thread test for oestrogen activity.

480. A. MDPA

Proliferative changes in endometrium is induced by estrogen while progesterone induced secretory changes in already estrogen primed endometrium. In infertile women where endometrium is already showing proliferative changes that indicates estrogen is present hence progesterone can be given to induce secretory changes hence answer here will be MDPA (Medroxyprogesterone acetate)

481.

C. Pregnanediol

Progesterone is metabolised and excreted in the urine as sodium pregnanediol 3-glucuronide and recovered as such for assay in the secretory phase of the menstrual cycle. It's level can be estimated by enzyme immunoassay, enzyme dipstick test are available now which can be used to determine occurrence of ovulation Daily production of progesterone in the luteal phase is 20–40 mg and daily urine excretion is 3–6 mg.

482.

C. Stimulates FSH secretion

- Inhibin is a nonsteroidal water-soluble protein (peptide) secreted by the Graafian follicle.
 - Inhibin consists of two peptides, namely inhibin A (a-fraction) and inhibin B (b-fraction)
 - Oestrogen is responsible for secretion of inhibin in the Graafian follicle, which in turn suppresses FSH but stimulates LH secretion.
 - In polycystic ovarian disease (PCOD), there is an increased secretion of inhibin. This causes a low FSH but a high LH secretion by the anterior pituitary gland and is responsible for anovulation
 - Normal level of 50 pg/mL drops to less than 15 pg/mL after menopause due to oestrogen deficiency. It is studied by ELISA test
- Hence answer here is option C

483.

A. Ovary

- Relaxin is a water-soluble protein and nonsteroid.
- This hormone relaxes the connective tissue and is probably secreted by the ovary.
- It may have a role in pregnancy and may be responsible for relaxation of pelvic joints and pelvic floor muscles

484. B. In the first half of the cycle, it has no steroidogenic function

Granulosa cells:

- The lining of graffian follicle consists of two layers: (i) theca interna and (ii) granulosa layer.
- The granulosa layer itself is nonvascular and capillaries cannot be identified in it
- The formation of CallExner bodies is a distinct

feature of granulosa cells and can be readily recognized in certain types of granulosa cell tumor

- The liquor folliculi is a clear fluid-containing protein which coagulates after formalin fixation. It is secreted by the granulosa cells and contains the ovarian hormone oestrogen.

485.

D. The peak steroid production is between 23 and 25th day

The corpus luteum reaches maximum maturity by the 22nd day of the normal cycle.

After ovulation, the Graafian follicle cyst collapses and luteinization of the theca cells and the granulosa cells takes.

Following ovulation, LH produces luteinization of the granulosa and the theca cells and initiates progesterone secretion.

486.

B. Aromatase

LH stimulates the secretion of testosterone and androstenedione in the ovarian stroma (theca cells), which diffuse into the follicular fluid and are aromatized into oestradiol IN granulosa cells

487.

C. 15ng/ml

The plasma level of progesterone rises after ovulation and reaches a peak level of 15 ng/mL at mid-luteal phase

488.

B. Basal vacuolation

The secretory phase of the endometrium begins on the 15th day and persists until the onset of menstruation. The most characteristic signs of this phase are found in the glands. Their epithelial cells develop spherical translucent areas between the nuclei and the basement membrane which contain the precursors of the glandular secretion and which persist until about the 21st day of the cycle. This characteristic appearance is called subnuclear vacuolation and is presumptive evidence of progesterone activity and, therefore, of ovulation.

489.

C. Bone mass

During the reproductive years of life, natural oestrogens are principally produced by the Graafian follicles in response to pituitary gonadotropins. Oestrogen is responsible for the development of secondary sex characters, including the breasts, provides the negative feedback signal to the pituitary gland and hypothalamus and maintains adequate mineralization of the bones.

While in menopausal women – estrogen is used for

- Short term—hot flushes, vasomotor symptoms n Dyspareunia, libido n Urethral syndrome
- Long term—osteoporosis n Cardiovascular n Alzheimer's disease

490.

C. Reduces the incidence of venous thrombosis

Raloxifene, a nonsteroidal compound (Evista), is a selective oestrogen receptor modulator (SERM), which reduces the risk of fracture by 50%, especially vertebra by increasing BMD by 2–3%. It causes 10% reduction in total cholesterol and LDL and raises HDL level. It does not raise the level of triglycerides. It is therefore cardioprotective in long term.

C. Estrogen

In women with hysterectomy progesterone is not required as progesterone is required for cyclical bleeding, and to prevent endometrial hyperplasia and carcinoma.

Hence only estrogen is given as treatment of choice in osteoporosis

While in others HRT is used as first line of therapy to prevent osteoporosis

A. Ethiny estradiol

Hot flushes are the waves of vasodilation affecting the face and the neck and these last for 2–5 min each. These are followed by severe sweating. Several of these flushes occur in a day, but are more severe during the night, and can disturb sleep. The hot flushes are sometimes preceded by headache. Palpitation and angular pains may be felt.

Hot flushes are caused by noradrenaline, which disturbs the thermoregulatory system. Oestrogen deficiency reduces hypothalamic endorphins, which release more norepinephrine and serotonin. This leads to inappropriate heat loss mechanism

Hence estrogen therapy is given for treatment of hot flushes.

B. Raloxifene

Raloxifene, a nonsteroidal compound (Evista), is a selective oestrogen receptor modulator (SERM). Side effects are hot flushes, cramps, increased incidence of venous thrombosis and retinopathy.

Hence raloxifene not used in hot flushes

Tibolone (Livial) is a synthetic derivative of 19-nortestosterone and has a weak oestrogenic, progestogenic and androgenic action. It also elevates the mood, relieves the vasomotor symptoms

Isoflavones and androgens can also be used for hot flushes

A. Thrombosis

Hormone replacement therapy includes estrogen and progesterone

Risk of HRT include:

- Endometrial cancer
- Breast cancer n Ovarian cancer
- Thromboembolism
- Lipid profile dysfunction
- Gall stones and liver dysfunction

A. Short arm of Y chromosome

SRY on the short arm (p) of the Y chromosome is the gene involved in testis determination. At first, the germ cells appear followed by Sertoli cells that secrete MJF and prevent development of female genital tract.

B. Growth Spurt

First sign of puberty in girls is growth spurt

While in boys its testicular enlargement

D. Hair growth

Breast budding usually appears between the ages of 9–11 years; it is indicative of the competency of the hypothalamic–pituitary–ovarian axis.

Menstruation is due to regulation of estrogen progesterone LH nad FSH
Growth is attributed to growth-promoting hormone of the anterior pituitary, and also by insulin-like growth factor (IGF-1). The body shape also takes on the feminine configuration.

The cornified or fully mature cells (type of superficial cells) represents the final phase of complete oestrogenic maturity. It has a pink eosinophilic cytoplasm, the largest cytoplasm of any vaginal cell. The nucleus is pyknotic. The maximum level of cornification is usually seen in the late proliferative phase of a normally menstruating woman whose oestrogen production is optimal near ovulation.

While hair growth in puberty is dependent on androgens

Hence answer here is option D

498. B. High level of estrogen at puberty

Estrogen plays an important role in the regulation of pubertal growth. Growth hormone, along with estrogen is also essential. Estrogen affects growth hormone action at the level of receptor expression and signalling.

A. Barr body

Presence of a Barr body is dependent on the presence of the second X chromosome and if the chromosome pattern is XXX or XXY the extra X complement tenders the eccentric chromatin nodule either larger in size or in number.

Barr body

500. A. Idiopathic

Precocious puberty is defined as the appearance of any of the secondary sexual characteristics before the age of 8 years or the occurrence of menarche before the age of 10 years so diagnosis here is precocious puberty and its most common cause is idiopathic which accounts for 75% cases
Other causes are

1. Complete precocious puberty: (a) Idiopathic, familial or sporadic, genetic (75%) (b) Congenital lesions of the hypothalamus–pituitary Acquired lesions—trauma, infection, neoplasm—tuberculosis (TB) meningitis in childhood (c) Part of a specific syndrome—McCune–Albright (5%), von Recklinghausen's neurofibromatosis (d) Other causes—endocrine/ metabolic disorder
2. Incomplete precocious puberty: (a) Premature thelarche (b) Premature adrenarch (c) Premature menarche
3. Pseudoprecocious puberty: (GnRH independent) (a) Feminizing ovarian tumours (10%) (hormone secreting) (b) Adrenal hyperplasia/ neoplasm—20% (c) Hypothyroidism (d) Hepatoblastoma producing gonadotropins (e) Iatrogenic—oestrogen administration

501. C. Exogenous GnRH analogues

Drug treatment of constitutional precocity includes:

1. Inj. depot medroxyprogesterone acetate (DMPA) 100–200 mg, IM every 2–4 weeks to induce regression of these changes and cessation of menstruation.
2. Cyproterone acetate exerts antiandrogenic and



antigonadotropin effects. Oral administration of 70–150 mg/m²/day has been found to be superior to DMPA.

3. GnRH agonists (Buserelin) form the mainstay of treatment in present day practice
Hence answer here is option C

502.

D. Congenital adrenal hyperplasia

The commonest cause of ambiguous genitalia (.90% cases) is adrenal hyperplasia which can have a serious prognosis if not promptly recognized and treated. The immediate concerns of the clinician in the salt-wasting type are to prevent rapid dehydration leading to fluid and electrolyte imbalance.

Congenital adrenal hyperplasia is diagnosed and treated before puberty. It is due to deficiency of enzyme 21-hydroxylase. 17-hydroxyprogesterone plasma level is raised more than 8 ng/mL. Premature ovarian failure seen in 1% of the cases is due to poor germ cell migration from the yolk sac during fetal development or due to accelerated rate of depletion (apoptosis)

503.

D. Congenital adrenal hyperplasia

Causes of Female pseudohermaphroditism :

1. Adrenogenitalsyndrome (testosterone overproduction due to adrenocorticotid insufficiency)
 2. 21 alpha-hydroxylase deficiency
 3. 11 beta-hydroxylase deficiency
 4. Treatment of mother with progestins or androgens
 5. Ovarian virilizing tumour
- Out of it most common cause is congenital adrenal hyperplasia which is due to deficiency of enzyme 21-hydroxylase

504.

A. 46xx chromosomal pattern, E. Clitoromegaly

Clinical features of female pseudohermaphroditism is :

- the clitoris enlarges
 - the uterus atrophies with resulting amenorrhoea,
 - the voice deepens,
 - hirsutism
 - breasts atrophy
 - persistence of fusion of the labia majora to resemble a scrotum.
- Hence answer here is option A E

505.

D. Cortisone

In virilising adrenal hyperplasia primary defect is a block in the conversion of 17-hydroxyprogesterone into hydrocortisone due to enzyme failure of 21 hydroxylase.

Hence The treatment of virilising adrenal hyperplasia is administration of cortisone or hydrocortisone or the newer synthetic corticosteroids such as prednisone or prednisolone (2.5 mg twice daily is an adequate maintenance dose in the adult and will restore the output of 17-ketosteroids to normal)

506.

C. Anti mullerian hormone deficiency

- The Sertoli cells in the developing testis produce Müllerian-inhibiting substance (MIS) that causes regression of the Müllerian (paramesonephric) ducts. In the absence of MIS, Müllerian ducts

develop passively to form the fallopian tubes, uterus and upper vagina. Female internal organs and external genitalia develop partially without the need for ovarian hormones and differentiate even in the absence of the gonads, unless interrupted by the regressive influence of MIS.

- With above explanation we can understand that anti mullerian hormone deficiency result in formation of female genitalia hence this can be the answer here.
- In placental aromatase deficiency there is reduced level of female sex hormone estrogen n likewise increased level of testosterone which can result in male external genitalia with 46 XX
- In maternal androgen adrenal tumor similar features are seen due to excessive production of androgens and such newborn often present with virilisation
- In WNT 4 gene mutation – WNT 4 Gene is responsible for production of protein that plays important role in production mullerian ducts and female reproductive system so its deficiency can present with above picture

507.

B. Progesterone

Progesterone is known to exert a thermogenic effect on the body. Therefore, if the woman records her basal body temperature (BBT) daily on awakening in the morning and plots the readings graphically, the BBT chart will be biphasic in an ovulatory cycle. The day of temperature shift indicates the time of ovulation. Avoidance of intercourse during the fertile days can prevent an unwanted pregnancy

508.

C. LH and FSH surge

Just before ovulation both LH and FSH surge occur LH levels increase much more than FSH. LH mainly is responsible for ovulation.

509.

B. In the first half of the cycle, it has no steroidogenic function

In the Dominant follicle, there is marked enlargement of granulosa cells with lipid inclusion under the influence of FSH and estrogen, (i.e. option d is correct)

Granulosa cells produce estrogen and inhibit B in the first half of the menstrual cycle. (So option b is incorrect). The granulosa cells do not have a blood supply. The granulosa cells layer become vascularised only after ovulation with the formation of corpus luteum.

510.

D. Meiosis II is hormone dependant

- Meiosis I is hormone dependant (due to LH surge)
- Meiosis I is resumed 32-36 hrs before ovulation due to LH surge
- Meiosis II is not hormone dependant

511.

C. 22nd day

Maximum progesterone production will coincide to maximum activity of corpus luteum = 8 days after ovulation, i.e. Day 22 of menstrual cycle.

512.

D. Elevated and static level of estradiol is essential for ovulation

- Follicular development is a dynamic process that continues from menarche until menopause. The process is designed to allow the monthly recruitment of a of follicles and ultimately, to release a single, mature dominant follicle during ovulation each month.
- The initial recruitment and growth of the primordial follicle is Gonadotropin independent and affects a cohort over several months, (i.e. option c is correct)
- Shortly after this, it becomes gonadotropin dependant & FSH initiates ovarian cycle
- Role of AMH (anti mullerian hormone)
AMH inhibits initial recruitment of primordial follicles into the pool of growing follicles. It also decreases responsiveness of follicles to FSH. AMH plays an important role for monofollicular development and ovulation.

513. D. The peak steroid production is between 23rd and 25th day.

In corpus luteum: The granulosa cells whose basic role in the follicular phase was aromatisation of androgens to estrogens, undergo a change in role and become predominantly progesterone synthesising

cells. Although they continue to aromatase androgen produced by theca cells.

The theca cells continue to produce androgens which are converted to become estrogen (option b is correct). The size and activity of corpus luteum reaches peak by 8th day post ovulation (i.e. 14 + 8 = 22nd Day of menstrual cycle), this also correlates with peak luteal phase estrogen and progesterone (i.e. option d is incorrect it should 20-22 days and not 23-25th day).

Corpus luteum has a life span of 14 days. From day 23 of cycle, regression begins. The cause of degeneration is prostaglandin F2a, estrogen and endothelin.

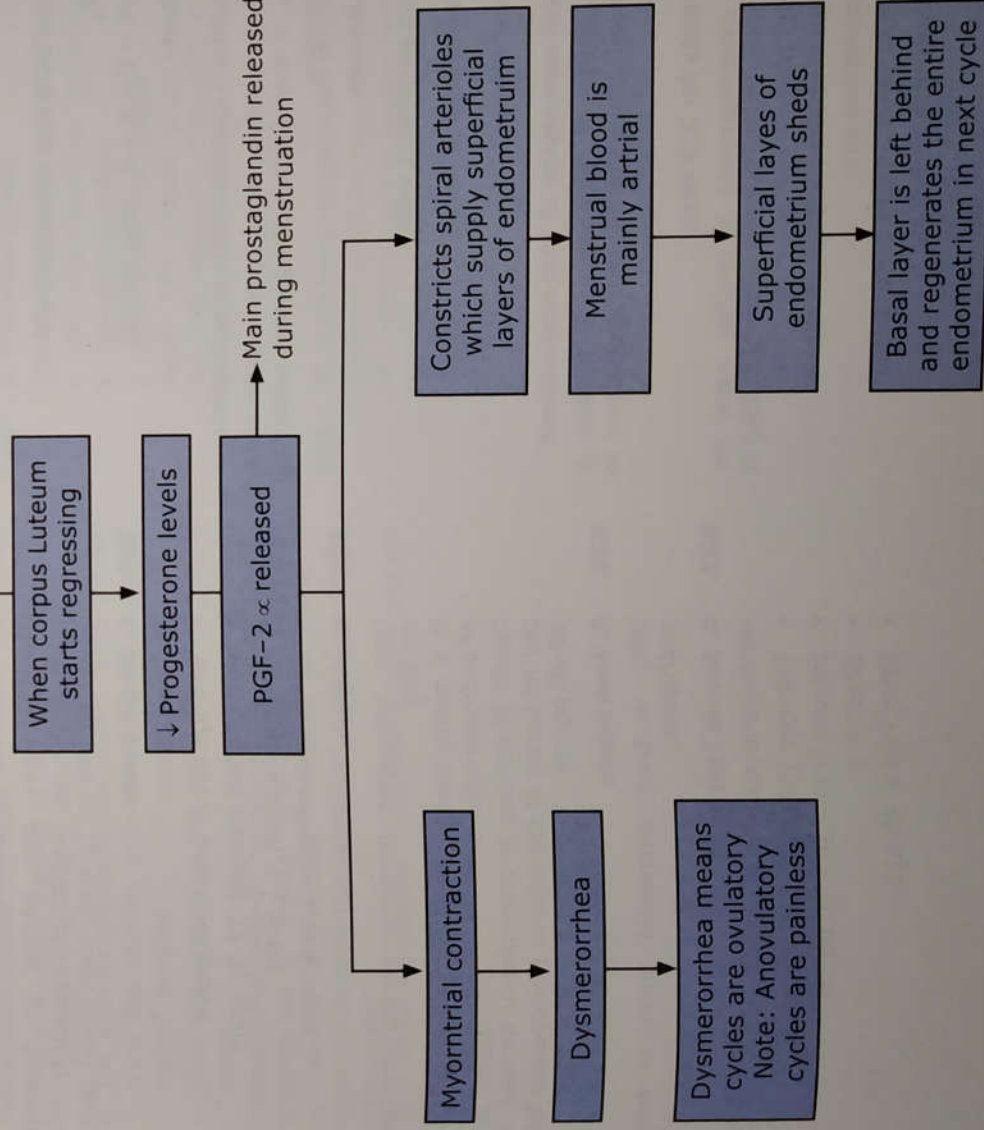
514.

B. Basal vacuolation

Subnuclear basal vacuolation is characterized by glandular growth and presence of vacuoles due to secretion of glycogen between nuclei and basement membrane. It is due to the effect of progesterone. Basal vacuolization is the earliest evidence of ovulation begins on day 16 and persists until about 21st day of the cycle.

Pseudostratification of nuclei is characteristic of proliferation phase but persists until active progesterone secretion begins.

515. B. Prostaglandin released at the time of menstruation is PGE₂
In second half of menstrual cycle





516. C. 15 ng/mL

"Serum value of progesterone is less than 1ng/mL in follicular phase and 5-15 ng/mL mid luteal phase"

517. B. Mid secretory

As we know subnuclear vacuolation is the earliest histopathological change in secretory phase. These secretory vacuoles then move upwards towards the apex. Since subnuclear vacuolation is absent it is not early secretory phase. The edematous stroma and tortuous gland point towards mid secretory phase.

518. D. Anovulatory infertility

Pulsatile GnRH is used for:

- Ovulation induction (in managing anovulatory infertility)
- Delayed puberty

519. D. ↑ Neuropeptide Y.

All other statements are true.

520. D. Secreted by theca cells

Estrogen is produced by:

- Granulosa cells
- Theca cells form androgen which are converted to estrogen by enzyme aromatase under the influence of enzyme FSH (It is not secreted by Theca cells)
- Corpus luteum
- By peripheral conversion of androgens in adipose tissue.

521. C. Enhanced by E and inhibited by P

522. D. E_2 , E_1 , E_3

Least potent = E_3 > E_1 > E_2 (Most potent).

523. B. Norgestrel

524. C. A fern pattern characteristic of estrogen.

On day 12, when cervical mucus is viewed under microscope, it shows a fern like pattern under the effect of estrogen.

525. D. Corpus luteum

526. B. Basal and parabasal cells

527. D. Endocrine status of cervix

528. B. Estrogenic effect

529. D. peripheral conversion of androstenedione

The major source of testosterone in females is from peripheral conversion of androstenedione to testosterone

530. C. Pain persists for 2-3 days

Spasmodic dysmenorrhoea is another name for primary dysmenorrhoea. (i.e. no pelvic pathology is responsible for pain)

Characteristics of spasmodic dysmenorrhoea

- Seen in adolescent girls
- Pain appears within 2 years of menarche
- Family history may be present

- Pain is spasmodic nature. It is located in lower abdomen and may radiate to back and medial aspect of thigh.

- Associated systemic discomfort seen

- Pain begins few hours before onset of menstruation and lasts for about 48 hours.

- Pain is often cured after child birth

- Management: NSAIDs or OCPs

531. D. Mittelschmerz syndrome

- A female giving history of sharp pain in lower abdomen, every month, 2 weeks before the menstruation suggests mittelschmerz as the diagnosis.

- Mittelschmerz is synonymous to painful ovulation. Pain is associated with rupture of ovarian follicle at the time of ovulation.

532. A. SSRI

Premenstrual disorders:

- Frequently women of reproductive age experience symptoms during the late luteal phase of their menstrual cycle, and collectively these complaints are termed premenstrual syndrome (PMS) or premenstrual dysphoric disorder (PMDD)
 - It is mostly seen in women aged to 30-45 years
- Amongst all the drugs used-SSRI's have shown the best results

533.

A. Menstrual irregularity

There is only one marker of perimenopausal transition - i.e. menstrual irregularity. The cycles have long interval (greater than 50-60 days)

534.

C. 39-51 years

Perimenopause:

- Average age of onset: 46 years
- Age of onset (range): 39-51 years
- Average duration = 5 years
- Range of duration = 2 to 8 years.

535.

B. Estrone

Main estrogenic hormone during menopause = estrone

It is mainly derived from the peripheral conversion of androstenedione.

Levels of estrone in menopausal females = 30-70 pg/ ml
Levels of estradiol in menopausal females = 10-20 pg/ ml

536.

C. Androgens

DOC to treat decreased libido in females is androgens.

537.

A. Serum FSH > 40

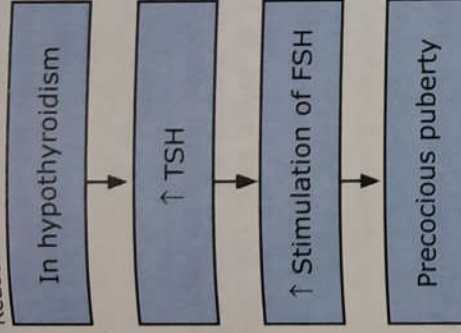
Hormone levels at menopause

- Estrogen (E_2) low at 10-20 pg/mL
- Estrone (E_1) - 30 - 70 pg/mL
- $E_2/E_1 < 1$
- Urine FSH > 40 IU/L

D. Hyperthyroidism

Hypothyroidism and not hyperthyroidism causes precocious puberty.

Reason:



If precocious puberty is associated with delayed bone age it suggests primary hypothyroidism.

C. McCune-Albright syndrome

Precocious puberty with bony dysplasia and café au lait spots points towards McCune-Albright syndrome as the diagnosis.

McCune-Albright Syndrome is characterized by the classic triad of polyostotic fibrous dysplasia of bone, irregular café au lait spots on skin and GnRH independent sexual precocity

- The precocious puberty is the result of secretion of estrogen from functioning ovarian cysts.
- The café au lait spots are usually large, do not cross the midline and have irregular "coast of maine" margins.
- They are located on the same side as the bony lesion

Laurence-Moon-Biedl syndrome is hypothalamic amenorrhea + mental retardation + polydactyl + retinitis pigmentosa. Frohlich Syndrome is hypogonadotropic hypogonadism + obesity + genital hypoplasia

Both these are causes of delayed puberty and not precocious puberty

540. A. Thelarche

The first sign of puberty in girls is Growth spurt. The first visible sign of puberty in girls is: Thelarche (appearance of breast budding).

541.

A. Barr body

Barr body forms the basis for sex chromatin testing.

Barr Body

When two X chromosomes are present in a cell (as in a normal female) one of them becomes inactivated and condensed on the nuclear membrane and is called the 'Barr body'. This process is termed as X chromosome lyonization (inactivation).

Presence or absence of Barr bodies helps in ascertaining the sex of an individual

- Absence of Barr body indicates that the patient has only one X chromosome (e.g. Normal male XY or Turner's syndrome (XO))
- Nuclei of cells in females (XX) contain a darkly staining Barr body that is not present in the nuclei of cells in males.
- Barr bodies are most easily seen in a smear of squamous epithelial cells obtained by scraping the buccal mucosa.
- Barr bodies react differently to histological stains and are best seen as dark staining bodies within the nucleus of non-dividing interphase cells.

542.

A. GnRH analogue

543.

A. Inhibin secreted by Sertoli cells

544.

D. Estradiol levels

Important causes of puberty menorrhagia are:

- HPO axis immaturity (anovulation)
 - Bleeding disorders
 - Endocrinological causes
- Hence TSH, platelet count and BT/CT are done S. estradiol levels are of no utility in the workup of this patient.

Note: Always rule out bleeding disorder in patients of puberty menorrhagia.

545.

B. High level of estrogen at puberty

Estrogen plays an important role in the regulation of pubertal growth. Growth hormone, along with estrogen is also essential. Estrogen affects growth hormone action at the level of receptor expression and signalling.

**In testicular feminisation syndrome:**

563. A. Buccal smear is chromatin positive
B. Normal breast size is observed
C. Menstruation is scanty and infrequent
D. Streak gonads seen

All are true except, for Klinefelter syndrome:

564. A. M/C chromosomal cause of male infertility
B. Associated with gynecomastia
C. Associated with increased risk of breast cancer
D. Associated with short life span

Normal size but non-functioning uterus is usually associated with:

565. A. Stenosis of the external os
B. Uterine synechiae
C. Partial agenesis of the vagina
D. Complete absence of vagina

A girl presents with primary amenorrhea, short stature, widely spaced nipple. Karyotype of the girl would be:

566. A. 45 XO
B. 46 XXY
C. 46 XY
D. 46 XX

A young female presented to you with primary amenorrhea. Examination reveals normal breast development and absent axillary hairs. Pelvic examination shows a normally developed vagina with clitoromegaly. On ultrasound, gonads are visible in the inguinal region. What is the most likely diagnosis?

567. A. Complete androgen insensitivity syndrome
B. Partial androgen insensitivity syndrome
C. Mayer Rokitansky Kuster Hauser syndrome
D. Gonadal dysgenesis

568. Which of the following statements is NOT true about Swyer syndrome?

- A. Can be fertile with surrogacy
B. Can be fertile with ovum donation
C. Presents with primary fertility
D. Gonadectomy is indicated for all patients

569. A mother brings her 19 years old daughter to your clinic with complaint that she has not started having menses. General examination reveals normally developed breasts and pubic hair. On pelvic examination, vaginal ending is blind and uterus is not palpable. Which of the following do you suspect?

- A. Mullerian agenesis
B. Asherman syndrome
C. Gonadal dysgenesis
D. Turner's syndrome

570. A 5-year-old girl complains of failure to attain menarche. Her height is 4 feet inches, secondary sexual characteristics are absent. What is the next best step in making a diagnosis?

- A. Perform a CT of brain
B. Perform a hormone profile
C. Do a karyotype
D. Do a TVS

571. A 18-year-old girl presented to the gynecology OPD with amenorrhea. On examination she was found to have Tanner's Stage V breasts and no pubic and axillary hairs. Ultrasound revealed absent uterus. What is the likely diagnosis?

- A. Mullerian agenesis
B. Turner's syndrome
C. AIS
D. Imperforate hymen

Amenorrhoea — Explanations

546.

D. Ovarian agenesis

Müllerian agenesis includes defect in vagina uterus and fallopian tube while ovaries are developed from genital ridge hence ovarian agenesis is not seen in müllerian agenesis

Development of breast is normal in müllerian agenesis as breast development is from mammary ridge, karyotype in müllerian development disorder is XX

547.

A. Absent uterus, C. Absent Vagina, D. XX phenotype

MRKH syndrome is identified by absence of structures derived from Müllerian ducts, namely the uterus, cervix and upper vagina, 25% patients may have a short vaginal pouch. Rudimentary tubes are often present. The gonads are ovaries. The karyotype is XX, (Ref shaw's textbook of gynaecology/16th edition/129)

548.

C. Anovulation

549.

A. Ovaries

Müllerian duct results in development of uterus, upper part of vagina, fallopian tube

While ovarian development is from genital ridge so in müllerian agenesis ovaries remains normal

550.

A. Thelarche, Pubarche, Menarche

Adolescence is the age between 10 and 19 years. Puberty is the period of transition from childhood to adult sexual maturation. It is the process of biological, psychological and physical development through which sexual reproduction becomes possible. Progression occurs through sequential changes described as thelarche, adrenarche, peak growth spurt, menarche, ovulation.

551.

B. Edema of hands and feet, C. XO genotype, E. Streak ovaries

Turner's syndrome:

- 22 pairs of autosomes plus a sex chromosome XO.
- Ovarian agenesis, gonad is found to consist of undifferentiated stroma with absence of sex cells, a mere strip of fibrous tissue attached to the back of the broad ligament like a pale strip, the so-called streak gonad.

- Young girls present with primary amenorrhoea
- The patients are clinically of short stature though not actual dwarfs
- the trunk is muscular, the neck is short and webbed, cubitus valgus is notable. The breasts are not developed and pubic, and axillary hair is scanty or absent
- It also includes shield chest, high palate, low-set ears, lymphoedema of the extremities at birth and deafness.
- The vagina and uterus, if present, are underdeveloped. Other gross congenital abnormalities are present such as coarctation of the aorta.
- Deformities of the digits are also seen.

552.

B. Normal breast, D. Normal secondary sexual characters

553.

A. 45 XO

Above features are seen in patient with turners syndrome hence karyotype 45 XO

554.

A. Low oocyte in ovary

Short stature with primary amenorrhea with Serum follicle-stimulating hormone (FSH) is above 40 mIU/mL and E2 is below 25 pg/mL points to diagnosis of Turner's syndrome.

It has also been called ovarian agenesis or gonadal dysgenesis because at laparotomy the gonad is found to consist of undifferentiated stroma with absence of sex cells, a mere strip of fibrous tissue attached to the back of the broad ligament like a pale strip, the so-called streak gonad.

Hence answer here is option A

555.

A. Turner's syndrome

Turners syndrome present with primary amenorrhea, atrophied breast and vagina and uterus, if present, are underdeveloped.

Gonadal dysgenesis often present with primary amenorrhoea but externally present with ambiguous genitalia

Androgen insensitivity syndrome present with a female external genitalia with primary amenorrhoea but internal genitalia is that of male and secondary sexual characters are well developed

In Klinefelters syndrome patient externally resembles a male in general body conformity, the penis is small or normal in size, the testes are small, but as a rule are normally placed. gynaecomastia is frequently present the voice may be high pitched, and the appearance may be eunuchoid. Most of these individuals are sex chromatin positive like females because of the extra X chromosome. Genetic analysis reveals their karyotype to be 47 XXY

556.

C. Testicular feminization syndrome

- The peripheral receptors for testosterone are absent or scanty or they fail to respond to testosterone. The external genitalia are of female phenotype
- Chromosome is XY, and the testes are located along its line of descent in the abdominal cavity or in inguinal canal and are maldeveloped.
- Wolffian duct fails to develop because of absence of testosterone receptors
- The girl is typically feminine and tall. The pubic and axillary hair are scanty, but the breasts are developed because of oestrogen derived from peripheral conversion of androstenedione. The girl presents with primary amenorrhoea. The ovaries and the uterus are absent.
- Hence answer here is option C

557.

A. Phenotype may be completely female

In androgen insensitivity syndrome Chromosome is



XY(hence seen in males), and the testes are located along its line of descent in the abdominal cavity or in inguinal canal and are maldeveloped. Here the primary defect is abnormal androgen receptors phenotype is always female, the girl is typically feminine and tall. The pubic and axillary hair are scanty, but the breasts are developed because of oestrogen derived from peripheral conversion of androstenedione. The girl presents with primary amenorrhoea. The ovaries and the uterus are absent.

558. B. Scanty pubic hair, D. Uterus absent, E. Breast Development is adequate

559. B. At puberty

Management of testicular feminization syndrome :

- Once diagnosed, it is important to trace the location of the testes and perform gonadectomy, because testes are liable to undergo malignancy in 10%–30% cases. It is preferred to remove the testes in puberty when the correct diagnosis is made (16–18 years).
- The girl will require oestrogen therapy for the development of the breasts as well as to prevent osteoporosis.
- If she plans to marry, vaginoplasty should be done. If sufficient length of vagina prevails, vaginal dilators may be effective in stretching its length.

Hence answer here is option B

560. D. Low FSH

An Turners syndrome as gonads are streak : estrogen is low so FSH is high.

561. A. Streak ovaries should be removed surgically due to 25% chances of turning malignant

Turners syndrome patients with Karyotype 45 XO are not at risk of malignancy. Only these who have a part of Y chromosome as in mixed gonadal dysgenesis or in Testicular Feminization.

562. D. Perform blood 17-hydroxyprogesterone levels

As the karyotype is XX the child is a female. The child has been exposed to androgens in utero from the mother or the child has congenital adrenal hyperplasia. The rare possibility of a true hermaphrodite with a XX karyotype should also be considered. The next step is to perform blood 17-hydroxyprogesterone levels, to confirm/exclude congenital adrenal hyperplasia, which is a treatable condition. An ultrasound scan should be performed next, because the uterus ovaries and vagina are present in congenital adrenal hyperplasia.

563.

B. Normal breast size is observed

In testicular feminization syndrome:

Genotype = 46 XY

- Hence Barr body is absent i.e. chromatin negative (i.e., option A is incorrect)

- Here gonads are testis and are not streak (option D is incorrect)

- There is primary amenorrhea (option C is incorrect) (i.e. option B is correct).

564. D. Associated with short life span

565. B. Uterine synechiae

Option A : Stenosis of external os would result in hematometra, i.e. uterus would be large and non-functioning.

Option C : Partial agenesis of vagina

In parital agenesis of vagina a segment of vagina may be atretic in the upper-third. It is often associated with hypoplasia or even absence of cervix. Uterus may be normal and functioning or malformed.

Option D : Complete absence of vagina is almost always associated with absence of uterus.

Hence by exclusion our answer is B i.e. uterine synechiae (Asherman syndrome).

566. A. 45 XO

567. B. Partial androgen insensitivity syndrome

There is clitoromegaly which indicates partial androgen insensitivity.

568. A. Can be fertile with surrogacy.

- Mgt: Estrogen and progesterone therapy for breast development and menstruation
- Gonadectomy: As intra-abdominal testis have risk of germ cell tumor
- Females can become pregnant by doing IVF with donor oocyte.

569. A. Mullerian agenesis

In the question -19 year old c/o primary amenorrhea with -

- Normal secondary sexual characteristics (breast and pubic hair)
- Uterus is absent
- Short vagina is present

All these favor the diagnosis of Mullerian agenesis. As far as Ashermann Syndrome is concerned, uterus should be palpable. In Gonadal dysgenesis and Turner Syndrome, secondary sexual characteristics are absent.

570. B. Perform a hormone profile

571. C. Androgen Insensitivity Syndrome

The patient at 18 years of age is presenting with:

- Amenorrhea
- Tanner stage V of breast
- No pubic and axillary hair
- USG shows absent uterus and non-developed gonads.

All these findings point towards Androgen insensitivity syndrome.

Polycystic Ovarian Syndrome (PCOS) — Questions

- 572.** Which of the following statements is incorrect regarding polycystic ovarian disease?
- Elevated LH hormone
 - Can cause infertility
 - May be associated with abnormal glucose tolerance test
 - Results in postdated pregnancy

- 573.** The following hormone is raised in polycystic ovarian syndrome:

- 17- OH progesterone
- Follicular stimulating hormone
- Luteinizing hormone
- Thyroid stimulating hormone.

- 574.** PCOD – Hormonal status :

- LH decreased
- LH Increased, FSH Normal to Low
- FSH increased
- 17 OH progesterone

- 575.** Which of the following is the most likely diagnosis in 27 year old obese woman presenting with Oligomenorrhea, infertility and hirsutism?

- Polycystic ovaries
- Endometriosis
- Pelvic inflammatory disease
- Turner's syndrome

- 576.** In PCOD symptoms and sign are: (PGI)

- Amenorrhoea
- Alopecia
- Theca cell hyperplasia
- Hyperandrogenism
- Anovulation

- 577.** In Polycystic ovarian diseases, all of the following are seen except: (PGI type)

- Endometrial carcinoma
- Increased FSH
- Streak Ovaries
- Insulin resistance
- Hirutism

- 578.** All are true about polycystic ovarian disease except:

- Persistently elevated LH
- Increased LH/ FSH ratio
- Increased Dheas
- Increased prolactin

- 579.** The first step in the management of hirsutism due to stein- Leventhal syndrome is :

- OCP
- HMG
- Spironolactone
- Bromocriptine

- 580.** Treatment of Hirsutism in PCOD, drugs used are: (PGI)

- Menopausal Gonadotropin
- GnRH
- Spironolactone
- Hcg

- 581.** A hirsuite lady with PCOD treatment is:

- Ethinyl estradiol + levonorgestrel
- Ethinyl estradiol + Desogestrel
- Levonorgestrel
- None

- 582.** Most common cause of Hirsutism:

- Polycystic ovary disease
- Arrhenoblastoma
- cushing syndrome
- Congenital adrenal hyperplasia

- 583.** Kali Rania 20 year- old girl presents with history of rapidly developing hirsutism and amenorrhea. To establish the diagnosis you would like to proceed with which of the following tests in blood:

- 17- OH progesterone
- DHEA
- Testosterone
- LH: FSH ratio

- 584.** All of the following are associated with polycystic ovarian syndrome except :

- Ovarian Carcinoma
- Endometrial Carcinoma
- Insulin resistance
- Osteoporosis

- 585.** Major sources of androgen in females are all except

- Adrenals
- Ovaries
- Peripheral conversion to androgen precursors in the liver, gastro- intestinal tract and adipose tissue
- Corpus Luteum

- 586.** The biochemical changes in established cases of sterinleventhal syndrome are as mentioned except:

- Marked elevation of LH in contrast to FSH
- Insulin resistance
- Elevation of plasma testosterone
- Elevation in the level of sex hormone binding globulin (SHBG) level

- 587.** As regard the PCOS and hyperinsulinaemia:

- Hyperinsulinaemia is observed in about 40% to 80% of women with PCOS
- Hyperinsulinaemia stimulates hepatic synthesis of SHBG
- Metformin causes hypoglycaemia in normoglycaemic women
- Metformin has many other health benefits

- 588.** All of the following SERM can be used for ovulation induction except:

- Clomifene
- Raloxifene
- Tamoxifen
- Oroloxfifen

572. d	573. c	574. b	575. a	576. a,b,c,d,e	577. b,c	578. d	579. a	580. b,c	581. b	582. a	583. c
584. d	585. d	586. d	587. a	588. b							



589. The side effect of clomiphene because of which its use should be immediately stopped:
- Hotflashes
 - Multiple pregnancy
 - Terato genecity
 - Visual symptoms
590. A 30 year – old female complains of facial hair growth and oligomenorrhea. 1st investigation needed in this case is :
- TVS
 - S. testosterone levels
 - S. DhEAs level
 - 17 – OH progesterone levels
591. Measuring 17 – OHP is useful in all of the following cases of hirsutism except :
- Rapid onset hirsutism
 - Early onset hirsutism
 - Family H/O CAH
 - Hirsutism in a premenarcheal female
592. Clitoromegaly is defined if clitoris is:
- ≥ 5 mm
 - ≥ 7 mm
 - > 10 mm
 - 15 mm
593. The biochemical changes in established cases of Stein- Leventhal syndrome are as mentioned except :
- Marked elevation of LH in contrast to FSH
 - Insulin resistance
 - Elevation of plasma testosterone
 - Elevation in the level of sex hormone binding globulin (SHBG) level
594. Scoring system used for hirsutism is:
- Danforth and Trotter score
 - Halter score
 - Ferriman-Gallwey score
 - MC knight score
595. According to Ferriman- Gallwey scoring system hirsutism is diagnosed when score is more than
- 8
 - 12
 - 16
 - 20
596. BMI of an overweight female is :
- 19 – 24
 - 25 – 29
 - 30 – 34
 - Less than 19
597. DOC for Hirsutism:
- OCPs
 - Progesterone
 - Danazol
 - Spirolactone
598. All of the following are used in management of hirsutism except :
- Spirolactone
 - GnRH
 - Danazol
 - OCPs
599. In PCOD, which of the following drugs is not used for infertility?
- Spirolactone
 - Tamoxifen
 - Clomiphene
 - OC pill
600. Cytokine involved in ovarian hyperstimulation syn-drome:
- IL-2
 - VEGF
 - TNF-alpha
 - Endothelin

589. d	590. b	591. a	592. c	593. d	594. c	595. a	596. b	597. a	598. c	599. a	600. b
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Polycystic Ovarian Syndrome (PCOS) — Explanations

572.

D. Results in postdated pregnancy

Polycystic ovary syndrome is associated with abnormal gonadotropin secretion revealing an increased ratio of LH: FSH exceeding 3:1

Raised LH secretion by insulin can cause infertility or miscarriage through improper oocyte maturation. Obesity is related to PCOS. The adipose tissue (fat) is considered an endocrine and immunomodulatory organ; it secretes leptin, adiponectin and cytokines which interfere with insulin signalling pathways in the liver and muscle resulting in insulin resistance, and hyperinsulinaemia., which is associated with abnormal glucose tolerance test
Hence answer here is option D

573.

C. Luteinizing hormone

Polycystic ovary syndrome is associated with abnormal gonadotropin secretion revealing an increased ratio of LH: FSH exceeding 3:1

Insulin induces LH to cause thecal hyperplasia and secrete androgens, testosterone and epi-androstenedione which are converted to oestrogen in the granulosa cells. Epi-androstenedione is converted in the peripheral fat to oestrone. This leads to rise in the oestrogen and inhibin level. These in turn cause high LH surge.

574.

B. LH Increased, FSH Normal to Low

Hormonal changes in PCOD are:

- Enhanced serine phosphorylation unification activity in the ovary (hyperandrogen) and reduced insulin reception activity peripherally (insulin resistance).
- Insulin induces LH to cause thecal hyperplasia and secrete androgens, testosterone and epi-androstenedione which are converted to oestrogen in the granulosa cells. Epi-androstenedione is converted in the peripheral fat to oestrone. This leads to rise in the oestrogen and inhibin level. These in turn cause high LH surge.
- LH level is raised over 10 IU/mL. FSH level remains normal, but FSH/LH ratio falls.
- While oestrone level increases, oestradiol level remains normal with the result that the oestrone/oestradiol ratio rises
- Prolactin is mildly raised in 15% cases.
- Fasting insulin is more than 10 mIU/L in PCOS in 50–70/cases. 9. Thyroid function tests may be abnormal (hypothyroidism).
- 17-a-hydroxyprogesterone in the follicular phase. 300 ng/dL suggests adrenal hyperplasia due to 21-hydroxylase deficiency.
- Urinary cortisol, 50 µg/24 h.

575.

A. Polycystic ovaries

Polycystic ovarian disease

- Early adrenarche in the form of early pubertal hair and early menarche is observed in a few girls.
- Menstruation for a couple of years may be normal, but clinical features of PCOS develop early with oligomenorrhoea (87%) or with a short period

of amenorrhoea (26%) followed by prolonged or heavy periods (a common complaint in a majority of cases). Dysmenorrhoea is absent.

- In the reproductive years, infertility accounts for about 20% cases. This is due to anovulatory cycles.
- During pregnancy, if the woman conceives, carbohydrate intolerance, diabetes and hypertension may develop. Pregnancy loss occurs in 20–30%.
- Hyperandrogenism appears in the form of acne (30%) and hirsutism. Facial hair appears over the upper lip, chin, breasts and thighs. Baldness is sometimes noted, but virilism does not develop.

576.

A. Amenorrhoea, B. Alopecia, C. Theca cell hyperplasia, D. Hyperandrogenism, E. Anovulation

577.

B. Increased FSH, C. Streak Ovaries

- FSH either remains normal or decreased in PCOD
- Multiple cysts (12 or more) of 2–9 mm size are located peripherally along the surface of the ovary giving it a 'necklace' appearance on ultrasound ; not streak ovaries
- Features seen in PCOS:
- pubertal hair
- oligomenorrhoea (87%) or with a short period of amenorrhoea (26%) followed by prolonged or heavy periods (a common complaint in a majority of cases). Dysmenorrhoea is absent.
- Insulin resistance
- LH level is raised over 10 IU/mL.

578.

D. Increased prolactin

Hormonal changes in PCOD are:

- Enhanced serine phosphorylation unification activity in the ovary (hyperandrogen) and reduced insulin reception activity peripherally (insulin resistance).
- Insulin induces LH to cause thecal hyperplasia and secrete androgens, testosterone and epi-androstenedione which are converted to oestrogen in the granulosa cells. Epi-androstenedione is converted in the peripheral fat to oestrone. This leads to rise in the oestrogen and inhibin level. These in turn cause high LH surge.
- LH level is raised over 10 IU/mL. FSH level remains normal, but FSH/LH ratio falls.
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- Prolactin is mildly raised in 15% cases.
- Fasting insulin is more than 10 mIU/L in PCOS in 50–70/cases. 9. Thyroid function tests may be abnormal (hypothyroidism).
- 17-a-hydroxyprogesterone in the follicular phase. 300 ng/dL suggests adrenal hyperplasia due to 21-hydroxylase deficiency.
- Urinary cortisol, 50 µg/24 h.



- Normal androstenedione level is 1.3–1.5 ng/mL. DHEA .700 ng/mL suggests adrenal tumour. Hence answer here is option D

A. OCP

Oestrogen suppresses androgens and adrenal hormones (DHEA). It raises the secretion of SHBG in the liver, which binds with testosterone, thus reducing free testosterone. It also suppresses LH. It is best given as low-dose combined pills, having progestogen with lesser androgenic effect. Fourth generation of combined pills which contains 30 µg E2 and 2–3 mg drospirenone (progestogen with anti-androgenic action) is best for PCOS

B. GnRH, C. Spironolactone

Hormones to control menstruation are:

1. Oral combined pills (OC)
2. OC and cyproterone acetate; OC and spironolactone
3. Ketoconazole 200 mg daily reduces testosterone secretion
4. Dexamethasone (0.5 mg) at bedtime reduces androgen production
5. Clomiphene is the first line of treatment if PCOS woman is to be treated for infertility
6. This woman also shows raised level of homocysteine in which case N-acetyl-cysteine 1.2 g may be added to clomiphene therapy. N-acetyl-cysteine (NAC) is a mucolytic drug and an insulin sensitizer
7. Metformin also used as insulin sensitizer
8. GnRH analogs can also be used which further increases level of estrogen and progesterone

581.**B. Ethinyl estradiol + Desogestrel**

Oestrogen suppresses androgens and adrenal hormones (DHEA). It raises the secretion of SHBG in the liver, which binds with testosterone, thus reducing free testosterone. It also suppresses LH. It is best given as low-dose combined pills, having progestogen with lesser androgenic effect. Fourth generation of combined pills which contains 30 µg E2 and 2–3 mg drospirenone (or any progestogen with anti-androgenic action) is best for PCOS

582.**A. Polycystic ovary disease**

Causes of Hirsutism

1. Genetic and ethnic.
2. Polycystic ovarian disease (PCOD), hyperthecosis, masculinizing ovarian tumours, e.g. arrhenoblastoma, hilus cell tumour.
3. Adrenal-Congenital adrenal hyperplasia, Cushing's syndrome, adrenal tumour (1%–2% cases).
4. Drugs. Androgens; progestogens with androgenic effect, viz. 19-norsteroids, and levonorgestrel anabolic steroids, phenytoin, danazol, minoxidil.
5. Others. Obesity, hypothyroidism, anovulatory hypooestrogenism, idiopathic hyperprolactinaemia. – 15%,
6. Hirsutism occurs early in congenital adrenal hyperplasia, around puberty in PCOD and in elderly women at menopause

583.**C. Testosterone**

Rapid onset and worsening indicate probably underlying androgen producing tumor. Hence Assessment needs S. testosterone.

584.**D. Osteoporosis**

Features seen in PCOS:

- pubertal hair
- oligomenorrhoea (87%) or with a short period of amenorrhoea (26%) followed by prolonged or heavy periods (a common complaint in a majority of cases). Dysmenorrhoea is absent.
- Insulin resistance
- LH level is raised over 10 IU/mL.
- Endometrial and ovarian cancer can also be seen in PCOS

585.**D. Corpus Luteum**

In a woman, androgens are secreted by the ovaries and the adrenal glands in varying proportions. To some extent, they are produced by the peripheral conversion of androstenedione in the fat. The androgens produced are as follows: 25% comes from the adrenal gland, 25% from ovaries and rest from the peripheral conversion of androstenedione.

586.**D. Elevation in the level of sex hormone binding globulin (SHBG) level**

- Insulin induces LH to cause thecal hyperplasia and secrete androgens, testosterone and androstenedione which are converted to oestrogen in the granulosa cells. Epi-androstenedione is converted in the peripheral fat to oestrone. This leads to rise in the oestrogen and inhibin level. These in turn cause high LH surge.
- LH level is raised over 10 IU/mL. FSH level remains normal, but FSH/LH ratio falls.
- While oestrone level increases, oestradiol level remains normal with the result that the oestrone/oestradiol ratio rises
- Prolactin is mildly raised in 15% cases.
- Fasting insulin is more than 10 mIU/L in PCOS in 50–70% cases. 9. Thyroid function tests may be abnormal (hypothyroidism).
- 17-a-hydroxyprogesterone in the follicular phase. 300 ng/dL suggests adrenal hyperplasia due to 21-hydroxylase deficiency.
- Hyperandrogenism lowers the level of hepatic sex hormone binding globulin (SHBG), so that the level of free testosterone rises leading to hirsutism.
- Normal androstenedione level is 1.3–1.5 ng/mL. DHEA. 700 ng/mL suggests adrenal tumour. Hence answer here is option D

587.**A. Hyperinsulinaemia is observed in about 40% to 80% of women with PCOS**

- insulin resistance with resultant hyperinsulinaemia initiates PCOS in 50–70% cases, though hypothalamic-pituitary-ovarian axis and adrenal

glands are also involved to some extent. Insulin induces LH to cause thecal hyperplasia and secrete androgens, testosterone and androstenedione which are converted to oestrogen in the granulosa cells.

- Hyperandrogenism lowers the level of hepatic sex hormone binding globulin (SHBG), so that the level of free testosterone rises leading to hirsutism and insulin have no effect on SHBG
- Metformin treats the root cause of PCOS, rectifies endocrine and metabolic functions and improves fertility rate. It is used as an insulin sensitizer. It reduces insulin level, delays glucose absorption and liver production of glucose (liver neoglycolysis). It also improves peripheral utilization of glucose; liver and renal function tests should be performed prior to metformin administration. It doesn't cause hypoglycaemia in normoglycemic females

Hence answer here is option A

588. B. Raloxifene

589. D. Visual symptoms

For clomiphene

- M/C side effect of clomiphene
 - Menopausal symptom-hot flashes
 - Ovarian cyst formation
- Side effect for which its use should be immediately stopped—visual symptoms
- Most dreaded side effect
 - OHSS
 - Chances of OHSS = <1%
 - Chances of multiple pregnancy -
 - <10% (5-8%)
 - Maximum dose = 100 mg
 - Maximum duration of use = 12 months.

590.

B. S. testosterone levels

591.

A. Rapid onset hirsutism

Laboratory evaluation is to be recommended for women with moderate or severe hirsutism or hirsutism that is sudden in onset, rapidly progressive or associated with symptoms or signs of virilization. The first and most important investigation to be done in case of hirsutism is S. testosterone levels. Testing for nonclassical CAH, i.e. serum hydroxyprogesterone should be reserved for patients with early onset of hirsutism (premenarcheal females) women with a family history of the disorder and those in high risk ethnic groups. In rapid onset hirsutism - there is suspicion of estrogen secreting ovarian / adrenal tumor (not CAH).

592.

C. >10 mm

Clitoromegaly is defined as clitoris >10 mm in size or clitoral index (length times width) greater than 35 mm

Note: Normal length = 5.0 + 1.4 mm

593.

D. Elevation in the level of sex hormone binding globulin (SHBG) level

In PCOS (stein leventhal syndrome) the levels of SHBG decrease.

594. C. Ferriman-Gallwey score

595. A. 8

Ferriman-Gallwey scoring is a scoring method for detecting hirsutism. In the original system hair growth at 11 sites was noted :

- 1.Upper lip
- 2.Chin
- 3.Chest
- 4.Upper back
- 5.Lower back
- 6.Upper abdomen
- 7.Lower abdomen
- 8.Upper arms
- 9.Forearms
- 10.Thighs
- 11.Legs

In the modified method - 2 sites were deleted - forearms and legs. Thus in the modified scoring system - hair growth is seen at 9 sites. In each of the nine locations - a score between 0 - 4 is given depending on growth of terminal hair
Maximum score = 36

In caucasian women a score of 8 or higher is regarded as indicative of androgen excess.

596. B. 25 - 29

BMI (kg/m ²)	Category
< 19	Underweight
19.1 - 24.9	Normal
25 - 29.9	Overweight
30 - 34.9	Obese
>35	Morbidly obese

597.

A. OCPs

OCPs are the DOC for hirsutism

598.

C. Danazol

Management of Hirsutism

- OCPs (best & most effective)
- Medroxyprogesterone acetate (150 mg/m every 3 months or 10-20 mg orally daily)
- Spironolactone (50-100 mg B/D)
- Cyproterone acetate (is a part of Diane-Diane has; 2 mg cyproterone acetate and 50 mg ethinyl estradiol)
- Flutamide (not preferred due to its hepatotoxicity)
- Finasteride
- GnRH agonist
- Topical eflornithine hydrochloride

599. A. Spironolactone

There is no confusion with regards to the use of clomiphene citrate or Tamoxifen for infertility. The confusion is between OCP's and spironolactone. Spironolactone is not used for treating infertility.



OCPs used for sometime, can lead - suppression of gonadotropins and then exogenous gonadotropins can be given to increase fertility.

B. VEGF

Cytokine involved in ovarian hyperstimulation syndrome is VEGF.

OHSS: Ovarian hyperstimulation syndrome

- OHSS is a medical complication that is both completely iatrogenic and unique to stimulatory infertility treatment. Its symptoms are the result of ovarian enlargement and fragility, extravascular fluid accumulation, and intravascular volume depletion.
- Vascular endothelial growth factor (VEGF), whose expression in granulosa cells and serum is augmented by hCG, has been implicated in the pathogenesis of this disease.
- Two distinct patterns of OHSS onset have been described. Early OHSS occurs 3 to 7 days following the hCG trigger and is associated with the administration of exogenous hCG.
- Late onset disease occurs 9 days after the hCG

trigger; it is the result of endogenous hCG secretion from the pregnancy and tends to be more severe with multiple gestation.

Severity Classification:

- Mild OHSS (grades 1 and 2) is associated with high serum estradiol levels and ovarian enlargement to less than 5 cm and has minimal clinical significance.
- Grade 3 moderate OHSS is accompanied by mild abdominal distention and has minimal clinical significance.
- Grade 4 moderate OHSS is accompanied by gastrointestinal upset and ovarian enlargement to 5 to 12 cm.
- The presence of fluid shift from intravascular spaces are the hallmark of severe disease.
- Grade 5 OHSS includes tense ascites hydrothorax.
- Grade 6 OHSS is accompanied by haemoconcentration, coagulation abnormalities, respiratory failure, and renal dysfunction.

Infertility — Questions

- 601. Clomiphene citrate is:**
 A. Antiandrogen B. Synthetic steroid
 C. Antiestrogen D. GnRH analogue
- 602. Clomiphene citrate is indicated in:**
 A. Stein-Leventhal syndrome
 B. Ovarian cyst
 C. Asherman's syndrome
 D. Carcinoma endometrium
- 603. True about Clomiphene citrate except:**
 a. Commonly causes hyperstimulation
 b. Used for ovulation induction
 c. Multiple pregnancies seen in 3-8% cases
- 604. True about clomiphene citrate is:**
 A. Endomiphene has antiestrogenic affect
 B. Chance of pregnancy is three fold as compared to placebo
 C. Risk of multiple pregnancy is 2-4%
 D. It can also be used for male infertility with oligozoospermia
- 605. Side effect of clomiphene citrate includes all except:**
 A. Multiple pregnancy
 B. Breast tenderness
 C. Multiple polycystic ovary
 D. Teratogenic effect on off springs
- 606. GnRH analogue may be given in all of the following except:**
 A. Prostate Ca B. Endometrial Ca
 C. Fibromyoma-uterus D. Precocious puberty
- 607. GnRH analogues are useful in all except:**
 A. Endometriosis
 B. Hyperprolactinemia
 C. Precocious puberty
 D. Menstrual disturbances
- 608. In the perspective of the busy life Schedule in the modern society, the accepted minimum period of sexual cohabitation resulting in no offspring for a couple to be declared infertile is:**
 A. One Year
 B. One and a Half - year
 C. Two Years
 D. Three Years
- 609. Kamla, a 30 yrs old lady examined for infertility by Hysterosalpingography, reveals 'Bead-Like' fallopian tube and clubbing of ampulla. Most likely cause is:**
 A. Gonococcus
 B. Mycoplasma
 C. Chlamydia
 D. Mycobacterium tuberculosis
- 610. Fallopian tube dysmotility is seen:**
 A. Noonan syndrome B. Turner syndrome
 C. Kartagener syndrome D. Marfan syndrome
- 611. Best Investigation to assess tubal patency:**
 A. Rubin's Test
 B. HSG
 C. Laparotomy
 D. Laparoscopic chromotubation
- 612. Fallopian tube patency is checked by :**
 A. Hysterosalpingography
 B. Laparoscopy
 C. Hysteroscopy
 D. USG
- 613. An infertility with bilateral tubal block at cornua best method of management is :**
 A. IVF
 B. Laparoscopy and hysteroscopy
 C. Tuboplasty
 D. Hydrotubation
- 614. Post coital test detects all of the following except:**
 A. Fallopian tube block
 B. Cervical factor abnormality
 C. Sperm count
 D. Sperm abnormality
- 615. Cervical hostility is tested by following except:**
 A. Spinbarkeit B. Post coital test
 C. Miller Kuzrole test D. Keller test
- 616. Treatment for cervical infertility can be all except:**
 A. Condom for 3 month
 B. IUI
 C. Gamete Intrafallopian transfer
 D. clomiphene citrate
- 617. If the life style factor that is causing infertility in a young male is identified. Which of the following life style modification will have no effect**
 A. Weight gain B. Less exercise
 C. Vegetarian diet D. Weight loss
- 618. Aspermia is the term used to describe :**
 A. Absence of semen
 B. Absence of sperm in ejaculate
 C. Absence of sperm motility
 D. Occurrence of abnormal sperm
- 619. A 25 year old infertile male underwent semen analysis. Results show : sperm count - 15 million/ml; pH-7.5; volume - 2ml; no agglutination is seen. Morphology shows 60% normal and 60% motile sperms. Most likely diagnosis is:**
 A. Normospermia B. Oligospermia
 C. Azoospermia D. Aspermia

601. c	602. a	603. a	604. a	605. d	606. b	607. b	608. a	609. d	610. c	611. d	612. a
613. b	614. a	615. d	616. d	617. c	618. a	619. a					

620. Which of the following is true about obstructive azoospermia:

- A. ↑FSH and Normal LH
- B. Normal FSH and Normal LH
- C. ↑LH, Normal FSH
- D. ↑FSH, Normal LH

621. A Male with azoospermia. On examination size of testis normal FSH normal testosterone normal. Most probable cause is:

- A. MAL undescended testis
- B. Klinefelter's syndrome
- C. Kallmann's syndrome
- D. VAS obstruction

622. In azoospermia, the diagnostic test which can distinguish between testicular failure and obstruction of Vas deferens is:

- A. Estimation of FSH level
- B. Estimation of Testosterone level
- C. Karyotyping
- D. FNAC of testes

623. Semen analysis of a male f an infertile couple. Shows absence of spermatozoa but presence of fructose. The most probable diagnosis is;

- A. Prostatic infection
- B. Mumps orchitis
- C. Block in efferent duct system
- D. All of the above

624. A couple complains of primary infertility inspite of staying together for 4 year and having unprotected intercourse, all tests in wife are normal. Semen analysis shows a volume of 0.8ml/sperm count is 0, fructose is absent what is done next?

- A. Testicular FNAC
- B. Ultrasound for obstruction
- C. Local palpation of vas
- D. Karyotyping

625. In vitro fertilization is indicated in;

- A. Tubal pathology
- B. Uterine dysfunction
- C. Ovarian pathology
- D. Azoospermia

626. Aspiration of sperms from testes is done in;

- A. TESA
- B. MESA
- C. ZIFT
- D. GIFT

627. Ovulation can be diagnosed by all except;

- A. Measuring day 14 serum progesterone
- B. Rise in basal body temperature in the second half of cycle
- C. Study of cervical histology
- D. Endometrial histology

628. Indications of intrauterine insemination (IUI) are all except;

- A. Hostile cervical mucus
- B. Unexplained infertility
- C. Oligoasthenospermia
- D. Luteal Phase defect

629. In which case homologus artificial insemination is used in females:

- A. Hormonal disturbance
- B. Tubal block
- C. Cervical factor
- D. All of the above

630. Artificial insemination with husbands's semen is indicated in all the following situations, except;

- A. Oligospermia
- B. Impotency
- C. Antisperm antibodies in the cervical mucous
- D. Azoospermia

631. The major contribution to the human seminal fluid is from;

- A. Testes
- B. Seminal vesicles
- C. Prostate
- D. Bulbourethral and urethral glands

632. Absent fructose content in the seminal fluid suggests;

- A. Congenital absence of seminal vesicle
- B. Partial duct obstruction
- C. None
- D. Both

633. M/c cause of B/L cornual block is:

- A. TB
- B. Gonococcal infection
- C. Physiological spasm
- D. Chlamydia

634. Hmg can lead to multiple pregnancy is:

- A. 5%
- B. 10%
- C. 20%
- D. 30%

635. Sperms attain maturity in:

- A. Vas deferens
- B. Ejaculatory duct
- C. Epididymis
- D. Seminal vesicle

636. Liquefaction time of semen is:

- A. 30 mins
- B. 60mins
- C. 50 mins
- D. 10 minutes

637. Time taken for capacitation is:

- A. 2 hrs
- B. 3 hrs
- C. 5 hrs
- D. 7 hrs

638. The cells which lie outside blood testis barrier:

- A. Sertoli cells
- B. Spermatoocyte
- C. Spermatid
- D. Leydig cells

639. The axial filament of sperm tail has following ar- rangement of filaments:

- A. 1 + 5
- B. 3 + 5
- C. 7 + 5
- D. 9 + 2

640. The major contribution to the human seminal fluid is from:

- A. Testes
- B. Seminal vesicles
- C. Prostate
- D. Bulbourethral and urethral glands

620. b	621. d	622. b	623. c	624. b	625. a	626. a	627. a	628. d	629. c	630. d	631. b
632. d	633. c	634. d	635. c	636. a	637. d	638. d	639. d	640. b			

- A. Estrogen
C. LH
B. Progesterone
D. FSH

[illegible]

Infertility — Explanations

C. Antiestrogen

601. Clomiphene citrate is a nonsteroidal compound related to diethylstilbestrol (DES). Clomiphene is the first drug of choice in induction of ovulation. By competing with cytoplasmic oestrogen receptors in the hypothalamus, it blocks the negative feedback of circulating endogenous oestrogen. This allows release of GnRH into the pituitary portal system and stimulates LH and FSH secretion. Clomiphene is indicated in:
1. Anovulatory infertility.
 2. polycystic ovarian syndrome (PCOD) associated with infertility.
 3. In vitro fertilization. Gamete intrafallopian transfer (GIFT) technique and assisted reproduction therapy (ART).
 4. 25 mg orally for 25 days each month for 3 to 6 months to stimulate spermatogenesis.

602. A. Stein-Leventhal syndrome

603. A. Commonly causes hyperstimulation

Ovarian hyperstimulation syndrome (OHSS) is a complication of assisted reproductive technologies and an iatrogenic complication occurring in the luteal phase or early pregnancy. It is a potentially life-threatening condition, occurring in 1–10%. Hence not seen commonly with clomiphene citrate

604. A. Enclomiphene has antiestrogenic affect

Clomifene by competing with cytoplasmic oestrogen receptors in the hypothalamus, it blocks the negative feedback of circulating endogenous oestrogen. Hence have antiestrogenic effect

On clomiphene administration, 80% ovulate and about 50% conceive. Hence doesn't increase three fold increase in chances of pregnancy
multiple ovulation and multiple pregnancy in 10% occur due to Cc

action is due to it's antiestrogenic effect so it is of no use in male infertility

Hence answer here is option A

605. D. Teratogenic effect on off springs

The side effects are:

(i) ovarian enlargement in 10%, (ii) hot flushes, sweating due to oestrogen deficiency, osteoporosis, (iii) nausea, vomiting, (iv) visual disturbances, blurring, scotoma, (v) headache, dizziness, urticaria, (vi) hair loss 3%, (vii) weight gain, (viii) anti-oestrogenic effect on cervical mucus and endometrium (ix) CLPD, (x) hyperstimulation syndrome, (xi) two- to threefold increased risk of neural tube defect has been reported by many, though not proved, (xii) multiple ovulation and multiple pregnancy in 10%, (xiii) abortion rate 25 to 40% due to CLPD, (xiv) ovarian malignancy if the treatment is extended beyond 1 year and (xv) premature ovarian failure, caused by exhaustion of follicles through multiple ovulation.
Hence answer here is option D

606. B. Endometrial Ca

1. hypothalamic amenorrhoea to stimulate the hypothalamic-pituitary-ovarian axis and induce cyclical menstruation in delayed puberty
 2. hypothalamic hypogonadal infertility
 3. GnRH in infertility caused by PCOS and endometriosis yields a lower success rate.
 4. Cryptorchism in males.
 5. Precocious puberty to suppress pituitary-ovarian hormones until such time that normal puberty is desired.
 6. Contraception, but administration is difficult and expensive. Buserelin 6.6 mg implants suppress E2 for 6 months.
 7. Abnormal uterine bleeding if other measures fail
 8. Endometriosis.
 9. to shrink the size of uterine fibroid
 10. Breast cancer to suppress oestrogen.
 11. Prostatic cancer, cryptorchidism.
- Hence answer here is option B

607. B. Hyperprolactinemia

608. A. One Year

Infertility implies apparent failure of a couple to conceive, while sterility indicates absolute inability to conceive, for one or more reasons. If a couple fails to achieve pregnancy after 1 year of 'unprotected' and regular intercourse, it is an indication to investigate the couple.

609. D. Mycobacterium tuberculosis

Beaded fallopian tube is typically seen in tuberculosis, other significant feature of tobacco pouch appearance

610. C. Kartagener syndrome

Kartagener's syndrome is primary ciliary dyskinesia is autosomal recessive syndrome that causes defect in action of cilia lining respiratory tract fallopian tube eustachian tube and flagellum of sperm

611. D. Laparoscopic chromotubation

Tubal patency can be best assessed by laparoscopic chromotubation

For diagnosis of tubal patency:

- Best screening test is HSG (hysterosalpingography) if any abnormality is detected on it then we prefer confirmatory test
- Best confirmatory test is diagnostic laparoscopy + chromopertubation

In Laparoscopic chromotubation- Laparoscopic visualization of the pelvis, fallopian tubes and ovaries and injection of methylene blue through the cervix to visualize the free spill or absence of spill are indicated in infertility to establish patency of the fallopian tubes and to verify the findings when HSG has shown blocked tubes



612. A. Hysterosalpingography

Test for patency of fallopian tube are:

- Hysterosalpingography (HSG). Visualization of the uterine cavity and the fallopian tubes should be carried out by screening with the use of an image intensifier in an X-ray room using a Foley catheter, Rubin cannula or Leech-Wilkinson cannula for insufflation.
- Laparoscopic chromotubation. Laparoscopic visualization of the pelvis, fallopian tubes and ovaries and injection of methylene blue dye
- Hysteroscopy and falloscopy
- Ampullary and fimbrial salpingoscopy
- Sonosalpingography (SSG)
- Fertiloscopy

613. B. Laparoscopy and hysteroscopy

Management of tubal blockage :

1. Tuboplasty (Tubal microsurgery) It is advocated in tubal blockage. Depending upon the site of block variety of tuboplasty can be performed
2. Laparoscopic tubal adhesiolysis, fimbrioplasty
3. Balloon tuboplasty and cannulation

If above options couldn't restore patency next best step is **laprohysterectomy**

614. A. Fallopian tube block

Postcoital test (Sims' or Huhner's test, PCT)-. The couple is advised intercourse close to ovulation time preferably in the early hours of the morning. The woman presents herself at the clinic within 2 h after the intercourse. And cervical smear is used to analyse

- Sperm count
- Sperm abnormality
- The cervical mucus is simultaneously examined for its quantity, viscosity, fern test and presence of anti sperm antibodies

615. D. Keller test

cervical factor can be assessed by

- Postcoital test.-The test also provides the opportunity to assess sperm-mucus interaction
- A test called the Miller-Kurzkro test consists of placing ovulation mucus on a glass slide alongside the specimen of the husband's semen and studying the penetration of sperms under the microscope. Normal cervical mucus permits invasion by motile sperms. Penetration less than 3 cm at 30 min is abnormal
- ovulation mucus has the property of great elasticity and will withstand stretching up to 10 cm. This phenomenon is called spinnbarkeit or the thread test for oestrogen activity. During the secretory phase, the cervical mucus becomes tenacious and its viscosity increases so that it loses the property of spinnbarkeit and fractures when put under tension. This property is called tack.

Insler devised a scoring system which takes into account the various cervical mucus properties such as the amount, spinnbarkeit, ferning, viscosity and cellularity. The maximum score is 15 and a score of less than 10 is considered unfavourable
Hence answer here is option D

616.

D. Clomiphene citrate

If the cervical mucus is found to contain sperm antibodies, the couple is advised to use a condom or a diaphragm as a **barrier method for 3 months**. During this period, the antibodies gradually disappear, and once the mucus is found to be normal, conception is attempted. The presence of serum antibodies has a poor prognosis, and **IUI, IVF or GIFT** technique is offered.

Clomiphene citrate is used for ovulation induction and not for cervical factor infertility hence answer here is option D

617.

C. Vegetarian diet

618.

A. Absence of semen

- Aspermia—means no semen.
- Azoospermia—implies no sperm in semen.
- Oligospermia—low sperm count.
- Asthenospermia—no motile sperm or diminished motility.
- Necrospermia—dead sperms.
- Teratospermia—abnormal morphology of sperms

619.

A. Normospermia

WHO 2010 semen analysis:

- Volume > 1.5
- PH > 7.2
- Total Count > 39 million ejaculate
- Sperm concentration 15 million/mL
- Total Motility 40%
- Progressive motility 32%
- Morphology 4%
- Viability 58%
- White blood cells <1 million/mL

620.

B. Normal FSH and Normal LH

Azoospermia is of two types :

1. Obstructive
2. Non obstructive

In obstructive azoospermia :

- Hormonal levels are normal
- Further it is divided into types on the basis of level of obstruction
 - Dilatation of epididymis – shows obstruction just before epididymis; diagnosed on scrotal usg, volume and fructose are normal in such cases
 - If volume and fructose levels are decreased – perform TRUS – dilatation of seminal vesical shows obstruction at the level of seminal vesical while on TRUS if seminal vesical is absent – diagnosis is cystic fibrosis

621.

D. VAS obstruction

Normal hormonal profile with azoospermia indicates obstructive type of azoospermia

622.

B. Estimation of Testosterone level

Estimation of levels of testosterone > Fsh/LH helps to distinguish between type of azoospermia
If the levels are normal – obstructive azoospermia
If levels are abnormal – non obstructive azoospermia

**C. Block in efferent duct system**

- 623.
- Absence of sperms – indicates azoospermia
 - Then next step is to check testosterone/FSH/LH – if levels are normal – obstructive type
 - Next step is to see levels of fructose and volume – if level of fructose and volume is normal then it indicates obstruction at the level of efferent duct system which can further be confirmed by scrotal USG

B. Ultrasound for obstruction**A. Tubal pathology**

624. IVF (in vitro fertilization) and ET (embryo transfer) are offered to women in whom tuboplasty has failed or to women with extensive and irreparable tubal damage. The overall success rate of 20–30% is obtained

A. TESA

626. TESA – testicular / epididymal aspiration or extraction is a newest of aspiration technique for sperm retrieval. In this process sperm aspiration is performed by inserting a needle in testis and aspirating fluid

MESA – microsurgical epididymal sperm aspiration here sperms are extracted by dissection of epididymis under operating microscope and incision of single tube

GIFT. This involves ovarian stimulation and egg retrieval
Zygote intrafallopian transfer (ZIFT). This involves the laparoscopic transfer of day 1 fertilized eggs (zygotes) into the fallopian tube

627. A. Measuring day 14 serum progesterone

Tests of Ovulation

1. Basal Body Temperature
2. Secretory changes in endometrial biopsy prove that the cycle has been ovulatory
3. Cervical mucous - shows, during the oestrogen phase, a characteristic pattern of fern formation. This ferning disappears after ovulation, and if previously present its disappearance is presumptive evidence of corpus luteum activity
4. Ultrasound has now become the standard and indispensable procedure for monitoring maturation of the Graafian follicle and in detecting imminent ovulation in IVF, IUI and in timing intercourse. Endometrial thickness of 8–10 mm is the normal response of endometrium to progesterone. A lesser thickness indicates corpus luteal phase deficiency (CLPD).
5. Plasma concentration of progesterone rises after ovulation and reaches the peak of 15 ng/mL at mid-luteal phase (22–23rd day) and then declines as the corpus luteum degenerates.

628. D. Luteal Phase defect

Indications are as follows:

- Azoospermia.
- Immunological factors not correctable.
- Genetic disease in the husband. Homozygous Rh positive husband with previous pregnancy losses.
- Chronic ill health and disease

629. C. Cervical factor

If the cervical mucus is found to contain sperm antibodies

- the couple is advised to use a condom or a diaphragm as a barrier method for 3 months. During this period, the antibodies gradually disappear, and once the mucus is found to be normal, conception is attempted.
- The presence of serum antibodies has a poor prognosis, and IUI, IVF or GIFT technique is offered.
- In case of hormonal disturbances – first hormonal correction is done followed by it other associated abnormality is corrected
- In tubal block – various methods are used (explained in ans 762)

630. D. Azoospermia

Artificial insemination is indicated in the following:

- Chronic medical disorder.
- Oligospermia after sperm washout.
- Impotency—ejaculatory failure.
- Premature ejaculation, retrograde ejaculation.
- Hypospadias.
- Antisperm antibodies in the cervical mucus.
- Unexplained infertility.
- X–Y fractionation of sperms for sex selection, in genetic and chromosomal abnormalities.
- HIV-positive male or female.

631. B. Seminal vesicles**632. D. Both**

Absent fructose or decreased amount can be seen in two conditions

1. Partial duct obstruction – seen as dilatation of seminal vesicle on TRUS
2. Absent seminal vesicle – associated with CFTR gene mutation

633. C. Physiological spasm

M/c cause of bilateral cornual block is physiological spasm at the time of HSG.

634. D. 30% cases

Chances of multiple pregnancy with	Chances of OHSS
Clomiphene = 5–8% (< 10%)	<1%
HMG = 35% (here 30% being closest)	5%

635. C. Epididymis

Sperms attain motility and maturity in caudal part of epididymis.

636. A. 30 mins**637. D. 7 hrs**

Process	Time taken
Liquefaction time	20–30 minutes
Capacitation time	7 hours

**638. D. Leydig cells**

Blood testis barrier is formed by Sertoli cells which keeps the growing germ cells (its all stages) separated from blood.

639. D. 9 + 2 arrangement

The tail of the sperm has 2 main parts:

- The principal piece which has a central core made of axial filaments with a 9 + 2 arrangement.
- The end piece is the small tapering part of tail.

640. B. Seminal vesicles

Major contribution to semen is by seminal vesicle, followed by prostatic fluid followed by secretion of bulbo urethral glands.

641. D. Both

Fructose is added to seminal fluid, by seminal vesicle and hence would be absent in case of both congenital absence of seminal vesicle (seen in case of Congenital Bilateral Absence of Vas Deferens) and ejaculatory duct obstruction.

642. B. 3 days

M/C time of embryo transfer = Day 3 (8 called Blastomere stage). Best result obtained with Day 5 transfer (Blastocyst transfer)

643. A. FSH

In males with oligospermia, pregnancy rates have been improved by administering exogenous FSH. Clomiphene citrate can also benefit to some extent but not as much as FSH.

644. B. Regular cycle with dysmenorrhea

Lets see each option one by one:

Option A --- Oligomenorrhea → means ovulatory dysfunction or anovulation

Option B --- Regular cycles with dysmenorrhea --- only ovulatory cycles are painful: So if in a female dysmenorrhea is present, it suggests ovulation.

Option C --- Day 21 oestrogen levels increased; this suggests that female has not ovulated, as if she would have ovulated, on Day 21, levels of progesterone would have increased and not estrogen.

Option D --- If a female ovulates, basal body temperature increases and does not decrease, due to the thermogenic effect of progesterone

Option E --- On Day 8 main hormone is oestrogen and not progesterone in ovulatory cycles.

645. A. Measuring day 14 serum progesterone

Serum progesterone is measured on D8 and D21 to show the rise and not on D14.

646. B. Anovulation

Pulsatile GnRH therapy is used for treating —

- Anovulation
- Delayed puberty

Rest everywhere continuous GnRH is used so as to decrease the levels of estrogen in hyperestrogenism conditions like — Precocious puberty, fibroid, endometriosis.

647. A. HSG

IOC for Tubal patency --- HSG

Gold standard --- Laparoscopic chromopertubation.

648. C. Leech Wilkinson cannula.

The figure shows Leech Wilkinson cannula which is used to insert dye into the uterus during HSG.

649. B. Clips**650. D. Artificial insemination**

All methods of ART, by definition, involve interventions to retrieve oocytes. These techniques includes IVF, ICSI, GIFT, ZIFT. Cryopreserved embryo transfers, and the use of donor oocytes.

651. C. Liquid nitrogen

Cryopreservation of semen:

Involves cooling of embryos in the pronucleate stage or early cleavage stage to very low temperature in the presence of cryoprotectants such as:

- I_2 - Propanediol (Iodine)
- Glycerol
- Dimethyl sulphoxide (DMSO) with sucrose.
- They are then stored in liquid nitrogen till required.
- Over half the embryos survive thawing process.

652. D. Less patient discomfort

Comparison of oil-based versus water-based dye used in the hysterosalpingogram	
Fertility enhancement	Oil: Higher pregnancy rates
Patient discomfort	Water: less cramping
Image quality	Water: rugae seen Oil: better image
Embolization	Minimal risk with either dye
Granuloma	Greater risk for retained oil

653. D. Chromosomal anomaly is fetus

In pregnancies achieved by IVF:

1. Multiple gestation—Likelihood of twins is increased by 20-30%

Multiple pregnancy:

- With clomiphene = < 10%
- With HMG = 30%
- With IUI = 10-20%

2. Ectopic pregnancy = chances are twice with IVF as compared to normal pregnancy

3. Heterotopic pregnancy (Twin pregnancy with 1 intrauterine and other ectopic) other wise is rare but with IVF chances are increased.

4. Chances of preterm and low birth weight baby are higher in patients undergoing IVF

Chances of miscarriage
Chances of chromosomal anomaly] Same in IVF and normal pregnancy

654. B. Progesterone

Progesterone is thermogenic

Endometriosis — Questions

655. All of the following protect against endometriosis except :
A. Pregnancy
B. Nulliparity
C. Exercise
D. Smoking
656. Best investigation to establish the diagnosis of endometriosis is:
A. Laparoscopy
B. USG
C. X-ray pelvis
D. CTScan
657. Which of the following drugs not used in endometriosis ?
A. Danazol
B. Progesterin
C. GnRH agonist
D. Misoprost
658. A 35-year-old woman presents with infertility and palpable pelvic mass. Her CA-125 level is 90 mIU/mL diagnosis is:
A. Ovarian Ca
B. Endometrioma
C. Tuberculosis
D. Broadline Ovarian tumor

655. b

656. a

657. d

658. b

Endometriosis — Explanations

655. B. Nulliparity

Endometriosis is a hyper estrogenic condition and is thus more common in Nulliparous females. Protective factors are multiparity, pregnancy, smoking and exercise.

656. A. Laparoscopy

657. D. Misoprost

Drugs used in the management of Endometriosis:

- Progesterone (oral/DMPA inj/Mirena IUCD)
- Anti progestin (Mifeprestone/onaipristone)
- GnRH agonist
- Aromatase inhibitor (Letrozole/Anastrozole)
- OCP's (continuous)
- Gestrinone
- Danazol

658. B. Endometrioma

In this question we have insufficient information to make any definite diagnosis. At the best we can try to make the most probable diagnosis.

CA-125

- This is a non-specific tumor marker
- CA-125 is a glycoprotein which is normally not produced by ovarian epithelium but may be produced by both malignant and benign epithelial ovarian tumors.
- Cut off level of CA-125 is < 35 U/mL.
- Levels of CA-125 can be raised in

• Endometrial cancer	• Peritoneal inflammation, including PID
• Tubal cancer	• Tuberculosis
Non-gynecological	Hemorrhagic ovarian cysts
• Lung cancer	• Liver disease
• Breast cancer	• Leiomyoma
• Ca Pancreas	• Pregnancy
• Colon cancer	• Menstruation

- Thus, CA-125 levels, can be raised in all the four options, given in the question
- Palpable mass may also be present in all the four conditions.
- Infertility is a feature of endometriosis and tuberculosis. But for ovarian cancers, infertility (due to use of ovulation inducing drugs) is a risk factor, not a presenting symptom.
- Coming to Age: Patient is 35 years old.
- Age of 35 years favors endometrioma (endometriosis) the most.
- Peak incidence of invasive epithelial ovarian cancer (most common ovarian cancer) is at 56-60 years of age and for border line tumor average age is 46 years approximately
- Also in tuberculosis, CA-125 has least significance as it is neither used for diagnosis nor for follow up In young females if the value of CA-125 is > 200 IU/mL, it is considered to indicate malignancy.

↑ CA-125	
Neoplastic conditions	Non-neoplastic / Benign conditions
Gynecological	
• Ovarian cancer (nonmucinous)	• Endometriosis

Fibroid and Adenomyosis — Questions

659. Submucous fibroid protruding > 50% in cavity is clas-sified as:
 A. Type 0
 B. Type I
 C. Type II
 D. Type III
660. Broad ligament fibroid is related to:
 A. Ovaries
 B. Fallopian tube
 C. Ureter
 D. Gartner's duct
661. M/c degeneration in fibroid is:
 A. Red degeneration
 B. Hyaline degeneration
 C. Calcific degeneration
 D. Malignant transformation
662. All are complications of fibroid in pregnancy except:
 A. Red degeneration
 B. Obstructed labor
 C. PPH
 D. Placenta previa
663. Regarding imaging of uterine fibroids all are correct except:
 A. Ultrasound is ideal to confirm the diagnosis
 B. Saline Infusion Sonography (SIS) is more sensitive to detect any submucous fibroid
 C. MRI is superior to USG to identify the exact location of myoma
 D. CT scanning is an alternative to MRI
664. All of the following are the indications for myomectomy in a case of fibroid uterus except:
 A. Associated infertility
 B. Recurrent pregnancy loss
 C. Pressure symptoms
 D. Red degeneration
665. Identify the instrument:

 A. Myoma clamp
 B. Myoma screw
 C. Uterine manipulator
 D. IUCD removing hook
666. A 36-year-old female presents with heavy menstrual bleeding. She has one child of 7 years. USG shows a single 3 x 3 cm submucosal fibroid. Hemoglobin is 10.5 gm/dl. What is the best treatment option for her?
 A. GnRH injection
 B. UAE
 C. Hysteroscopic myomectomy
 D. Laparoscopic myomectomy
 E. TAH
667. All of the followings are presentations of adenomyosis except:
 A. Menorrhagia
 B. Infertility
 C. Dysmenorrhea
 D. Abdominal lump
668. A 45 years old patient presented with complaints of pain in abdomen and menorrhagia. Endometrial biopsy was normal and sonogram of uterus showed diffusely enlarged uterus with no adnexal mass. What is the diagnosis?
 A. Fibroid uterus
 B. Endometritis
 C. Endometriosis
 D. Adenomyosis
669. Metorrhagia is produced by the following except:
 A. Fibroid polyp
 B. CA endometrium
 C. IUD
 D. Intramural fibroid
670. Metropathica hemorrhagica is best treated by:
 A. Curettage of uterus
 B. Progestogen
 C. Estrogen
 D. Clomiphene
671. A 30-year-old woman para 2 + 0, hypertension have menorrhagia. Which is best treatment for her?
 A. Combined pills
 B. Mirena
 C. Hysterectomy
 D. Transcervical resection of endometrium
672. Gold standard for diagnosing adenomyosis:
 A. MRI
 B. USG
 C. Histopathology
 D. Saline infusion sonography

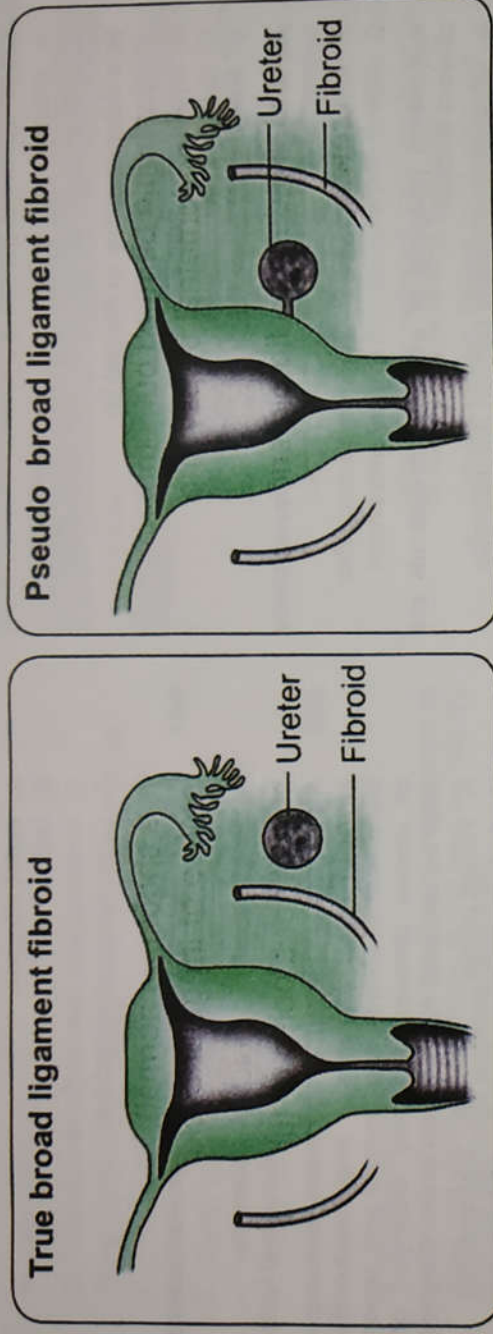
659. b	660. c	661. b	662. d	663. d	664. d	665. b	666. c	667. b	668. d	669. d
670. b	671. b	672. c								

Fibroid and Adenomyosis — Explanations

659. **B. Type I**

660. **C. Ureter**

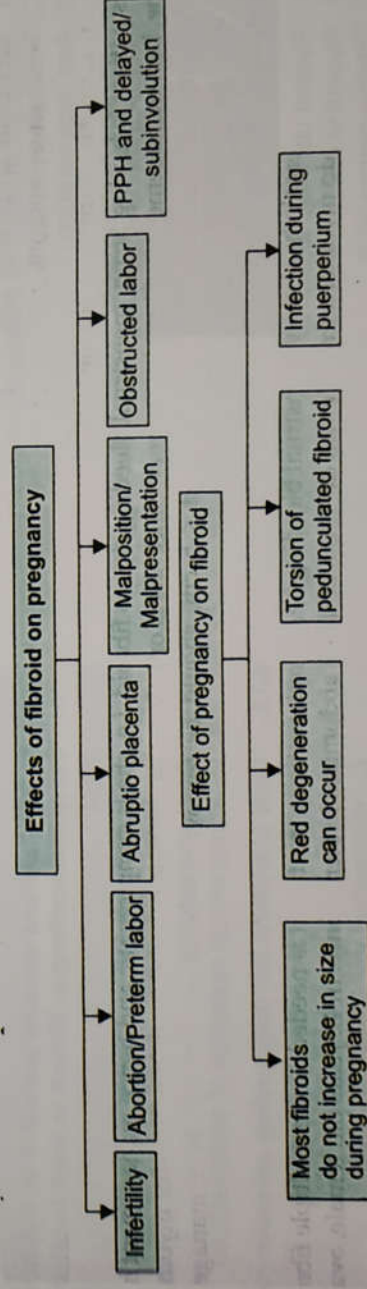
If broad ligament fibroid lies medial to ureter, it is pseudo broad ligament fibroid and if it lies lateral to ureter it is true broad ligament fibroid.



661. **B. Hyaline degeneration**

- M/c degeneration-Hyaline degeneration
- Least common change-Malignant transformation
- Degenerations become from the centre of fibroid
- M/ c fibroid to undergo malignancy-Submucous fibroid

6620 **D. Placenta previa**



Thus, placenta previa is not a complication of fibroid → Abruption placenta is a complication.

663.

D. CT scanning is an alternative to MRI

The M/C investigation done to diagnose/detect fibroids is USG.

Three dimensional ultrasonography can locate fibroids accurately.

Although MRI are better (more accurate) than USG but is not routinely used as it is expensive and not widely available.

CT scan has got limited contrast resolution than MRI (i.e. option d is incorrect). For submucous fibroid hysteroscopy or saline infusion semiography can be done.

664. **D. Red degeneration**

Red degeneration of fibroid is managed conservatively not by any surgery.

Indication of myomectomy: Myomectomy is specifically indicated in an infertile woman, in recurrent abortions and patients with symptomatic fibroid but desirous of bearing child and wishing to retain the uterus.

Thus, option a and b are ruled out. As far as pressure symptoms are concerned, it means fibroid is symptomatic and all symptomatic fibroids need surgical management which could either be myomectomy or hysterectomy.

665. B. Myoma screw

It is a myoma screw:

Uses: To fix the myoma after the capsule is cut open to give traction while the myoma is enucleated of its bed (myomectomy)

To give traction in a big uterus (multiple fibroids are requiring hysterectomy while the clamps are placed).

666. C. Hysteroscopic myomectomy

This patient is having heavy menstrual bleeding due to fibroid, i.e. she is symptomatic and hence management has to be done. Best management in fibroid is surgery. Since she is only 36 years and has one child. We will go for myomectomy. As discussed in the text, submucous fibroid < 5 cm, should be removed hysteroscopically. Best hysteroscopic myomectomy.

667. B. Infertility**668. D. Adenomyosis**

The patient is 45 years old and complaining of pain in abdomen and menorrhagia.

Her endometrial biopsy is normal and USG shows diffusely enlarged uterus.

This points towards Adenomyosis as the diagnosis.

"In adenomyosis-the uterus is typically diffusely enlarged, although less than 14 cm in size and is often soft and tender, particularly at the time of menses. Mobility of uterus is not restricted and there is no associated adnexal pathology.

Remember- Dysmenorrhea with diffuse uterine enlargement is attributed to adenomyosis.

669. D. Intramural fibroid

Metrorrhagia: It is defined as irregular, acyclical bleeding from uterus, amount of bleeding is variable.

Metrorrhagia also includes irregular bleeding in the form of contact bleeding or intermenstrual bleeding.

Menometrorrhagia: When the bleeding is so irregular and excessive that the menstruation cannot be identified.

Common causes of metrorrhagia are:

- Fibroid polyp
- Ca cervix and Ca endometrium
- Urethral caruncle
- Breakthrough bleeding in pill users
- IUCD in utero
- Decubitus ulcer

Note: Fibroids lead to menorrhagia

Fibroid polyp lead to metrorrhagia

670. B. Progestogen

Hemorrhagia is a type of anovulatory DUB, hence logically speaking it should be best treated by progesterone therapy.

It is mostly seen in premenopausal women.

Patients complain of a variable period of amenorrhea followed by excessive painless bleeding.

On HPE-cystic glandular hyperplasia, Swiss cheese pattern is seen, and secretory changes are absent

Treatment:

- In DUB due to anovular causes: Progesterones are the mainstay of therapy.
- They diminish the effects of estrogen on target cells by inhibiting oestrogen receptors.

671. B. Mirena

Management options for females of reproductive age group -

In this particular question, female is 30 years old i.e. very young so we should not choose hysterectomy or endometrial ablation as the management of choice because in future she might desire pregnancy.

Patient is hypertensive, hence OCPs are contraindicated, so our answer by exclusion is Mirena which is logically also correct, as this patient has 2 children so she may not desire pregnancy presently. Thus, Mirena serves 2 purposes in this female-

- Controls bleeding
 - Contraceptive benefit.
- In future, if she desires pregnancy, she may get mirena removed.

672. C. Histopathology

Prolapse, Fistula and Stress Urinary Incontinence (SUI) — Questions

- 673. Fourteen weeks pregnancy with third degree prolapsed Best management will be:**
 A. Sling surgery
 B. Foot end elevation
 C. Ring pessary
 D. No treatment
- 674. Most common cause of vesicovaginal fistula in India is :**
 A. Gynaec surgery
 B. Irradiation
 C. Obstructed labour
 D. Trauma
- 675. Kamla, a 48-years-old lady underwent hysterectomy On the seventh day, she developed fever, burning micturition and continuous urinary dribbling, She can also pass urine voluntarily. The diagnosis is:**
 A. Vesico vaginal fistula
 B. Urge incontinence
 C. Stress incontinence
 D. Uretero- vaginal fistula
- 676. Most important structure preventing uterine prolapsed is:**
 A. Round ligament
 B. Broad ligament
 C. Cardinal ligament
 D. Uterosacral ligament
- 677. Cause of decubitus ulcer in uterine prolapsed is:**
 A. Friction
 B. Venous congestion
 C. Intercourse
 D. Trauma
- 678. Most common genital prolapsed is :**
 A. Cystocoele
 B. Procidencia
 C. Rectocoele
 D. Enterocoele
- 679. A young nulliparous woman has 3rd degree uterovaginal prolapsed without any cystocoele or rectocoele. There is no stress incontinence. Uterocervical length is 3 inches. All other symptoms are normal. The best treatment plan for her will be:**
 A. Observation and reassurance till child bearing is over
 B. Shirodkar's vaginal repair
 C. Shirodkar's abdominal sling
 D. Fothergill's operation
- 680. Kegel's exercise should begin:**
 A. Immediately after delivery
 B. 3 weeks after delivery
 C. only after LSCS.
 D. During third trimester of Pregnancy
- 681. Best management of vault prolapsed is**
 A. Sacral colpopexy
 B. Sacrospinous ligament fixation
 C. Le forts repair
 D. Anterior colporaphy
- 682. The most appropriate method for collecting urine for culture in case of vesicovaginal fistula is:**
 A. Suprapubic needle aspiration
 B. Midstream clean catch
 C. Foley's catheterization
 D. Strile speculum
- 683. Chassar Moir technique is used in:**
 A. VVF
 B. Stress incontinence
 C. Urethrocoele
 D. Enterocoele
- 684. A case of obstructed labor which was delivered by Cesarean section complains of cyclical passage of menstrual blood in urine. Which is the most likely site of fistula:**
 A. Urethrovaginal
 B. Vesico- vaginal
 C. Vesico- Uterine
 D. Uretero- uterine
- 685. Multipara with Iscs, Presents with cyclical Hematuria, Diagnosis can be :**
 A. VVF
 B. UVF (Utero Vesicle Fistula)
 C. Bladder Endometriosis
 D. Ca. Cervix
- 686. The recommended non surgical treatment of stress incontinence is:**
 A. Pelvic Floor Muscle Exercises
 B. Bladder Training
 C. Electrical stimulation
 D. Vaginal cone/ weights
- 687. Bonney's test demonstrates:**
 A. Stress urinary incontinence
 B. Urge incontinence
 C. Overflow
 D. All of the above
- 688. Among the surgeries to correct SUI, the long-term success rate is maximum with:**
 A. Burch's colposuspension
 B. Stamey's repair
 C. Kelly stitch
 D. Aldridge surgery
- 689. Site of Placement of tension free vaginal tapes in stress urinary incontinence:**
 A. At urethra vesicle
 B. At upper part of urethra
 C. At middle part of urethra
 D. At lower part of urethra
- 690. Ureterovaginal fistula should best be treated by:**
 A. Uteroneocystostomy
 B. End to end anastomosis through an ureteric catheter
 C. Implantation into colon
 D. Ileal conduit

673. c	674. c	675. d	676. c	677. b	678. a	679. c	680. d	681. a	682. c	683. a
684. c	685. b	686. a	687. a	688. a	689. c	690. a				



691. In anterior colporrhaphy, the best method of suture apposing the vaginal flaps is :

- A. Interrupted
- B. Continous
- C. Interlocking
- D. Interrupted mattress

697.

In anterior colporrhaphy, the best method of suture apposing the vaginal flaps is:

- A. Interrupted
- B. Continous
- C. Interlocking
- D. Interrupted mattress

692. Urinary symptoms of procidentia:

- A. Frequency of micturition
- B. Retention of Urine
- C. Stress incontinence
- D. All of the above

698.

All of the following surgeries are done in vault prolapse except:

- A. Uterosacral suspension
- B. Colposuspension
- C. Sacral colpopexy
- D. Sacrospinous ligament fixation

693.

Enterocoele formation is a common complication

of:

- A. Suburethral sling surgery
- B. TVT
- C. Burch colposuspension
- D. TOT

699.

All of the following pairs are correctly matched except:

- A. Uterine prolapse - Vaginal hysterectomy
- B. Rectocele - Posterior colporrhaphy
- C. Cystocele - Colposuspension
- D. Vault prolapse - Sacrospinous fixation

694.

The most important support of pelvic viscera

is:

- A. Levator ani muscle
- B. Suspensory ligaments
- C. Uterosacral ligament
- D. Cardinal ligament

700.

Latzko operation is done for:

- A. VVF
- B. Ureterovaginal fistula
- C. Urethrovaginal fistula
- D. All of the above

695.

In Baden Walker halfway system of classification of prolapse, the reference point is:

- A. Hymen
- B. Introitus
- C. Internal os
- D. External os

701.

Regarding the sling procedure for Urodynamic Stress Incontinence (USI):

- A. Tension-free vaginal tape (TVT) elevates the bladder neck to a retropubic position
- B. TVT is an autologous sling material
- C. Intrinsic sphincter deficiency is an indication
- D. Success rate of TVT is low than other retropubic procedures

696.

Anterior colporrhaphy and colpoepineorrhaphy is known as:

- A. Ward mayo surgey
- B. Shirodkar repair
- C. Pelvic floor repair
- D. Manchester repair

702.

A 26-year-old nulliparous female with third degree uterine prolapse but no cystocele and no rectocele is best treated by:

- A. Abdominal sling surgery
- B. Le fort colpocleisis
- C. Fothergills repair
- D. Amputation of cervix

691. a

702. a

692. d

693. c

694. a

695. a

696. c

697. a

698. b

699. c

700. a

701. c

Prolapse, Fistula and Stress Urinary Incontinence (SUI) — Explanations

673. C. Ring pessary

Management of genital prolapse :

- Nulliparous - Abdominal sling operations
- Pregnancy - Ring pessary up to 16 weeks
- Postnatal - Ring pessary and pelvic floor exercises for 3-6 months
- Surgery if required thereafter
- Young woman <40 years - Conservative vaginal surgery (fertility sparing surgery)
 1. Cystocele, rectocele repair
 2. Manchester repair
 3. Sling operation
- Woman beyond 40 years and multipara - Vaginal hysterectomy and pelvic floor repair

674.

C. Obstructed labour

In India, 80–90% of the bladder fistulae are a result of the obstetrical causes

1. Mostly obstetric causes— Prolonged labour—operative—vaginal caesarean section.
2. Sometimes gynaecological causes such as sling operations for stress incontinence, hysterectomy

675.

D. Uretero- vaginal fistula

Ureteric fistulae result from direct injury or devascularization of the pelvic ureter during gynaecological surgery

In case of transection of the ureter, the woman develops urinary leak into the peritoneal cavity immediately. Because of failure to recognize and repair the trauma forthwith, these women have a stormy postoperative course and present with nausea and vomiting, abdominal distension and ileus, associated with rise of temperature and leucocytosis, and loin pain.

In case of necrosis of the ureter following denudation, the urinary leak is delayed. It generally starts 2 weeks or later after surgery, when the woman starts dribbling from the vagina apart from passing urine from the urethra. Unilateral injury causes oliguria, fever and pain in the renal angle on that side, apart from dribbling.

676.

C. Cardinal ligament

Uterosacral and cardinal ligaments support the uterus and vaginal vault. The cervix remains at or just above the ischial spines, and the vagina lies horizontally it is included in level 1 supports of uterus hence act as important structure in preventing prolapse

Other supports of uterus and vagina are :

Level II—Pelvic fascias and paracolpos which connects the vagina to the white line on the lateral pelvic wall through the arcus tendineus. This includes the pubocervical fascia anteriorly and the rectovaginal fascia and septum posteriorly.

Level III—Levator ani muscle supports the lower onethird of the vagina. The levator muscle forms a platform against which the pelvic organs (uterus and upper vagina) gets compressed during straining

677.

B. Venous congestion

Decubitus ulcer that is Keratinization and pigmentation of the vaginal mucosa as well as ulceration of the prolapsed tissue are caused by congestion and circulatory changes in the dependent part of the prolapse.

678.

A. Cystocele

679.

C. Shrodkar's abdominal sling

Abdominal sling procedures are done in nulliparous women in case of urine prolapse

The operations in common practice include:

- Abdominal wall cervicopexy.
 - Shirodkar's abdominal sling operation.
 - Khanna's abdominal sling operation.
- Best answer here would be option C

680.

D. During third trimester of Pregnancy

Kegel pelvic floor exercises work best in younger women, mild stress incontinence associated with urethral hypermobility with no damage to internal sphincter. It is also effective in urge incontinence, as these exercises tone up the levator ani muscles and internal sphincter.

Should be done for 4-6 months and should begin during third trimester of pregnancy

681.

A. Sacral colpopexy

Vault prolapse if occur in young women treatment options are :

1. Abdominal sling surgery
 2. Sacropexy Colpopexy
 3. Laparoscopy Colpopexy
- While in old women:

1. Right transvaginal sacrospinous colpopexy
2. Transabdominal (laparoscopy) sacropexy
3. Colpocleisis
4. Le Forte's operation
5. Abdominoperineal surgery
6. Ringpessary
7. Posterior intravaginal slingoplasty

682.

C. Foley's catheterization

Urine culture is mandatory in case of fistula before surgery to treat any underlying infection, and urine culture is obtained by catheterization in case of VVF

683.

A. VVF

The Chassar Moir technique of widely separating the vagina and bladder all around by the flap-splitting method and suturing the bladder and vagina separately in two layers is the most practised in case of VVF, Absence of tension on the suture line promotes healing

Flap-splitting surgery has the advantage of tension-free sutures and avoidance of superior position of bladder over the vaginal suture.

Other techniques are:

1. The Latzko procedure

2. Implantation of the ureters into the sigmoid colon, creating an ileal loop bladder into which the ureters are implanted, or a rectal bladder

C. Vesico- Uterine

Vesicouterine fistula is a rare variety of fistula, usually caused during caesarean section or uterine rupture or placenta accreta. The patient's symptoms are unlike those of lower urinary tract fistula. The patient remains continent, as urine does not dribble into the uterine cavity. The patient however complains of cyclical haematuria, menstrual blood trickling through the fistula into the bladder

689.

C. At middle part of urethra

Tension-free vaginal tape has been designed from nontissue reactive synthetic material (prolene). After exposing the region of the bladder neck on vaginal dissection, the hammock of the tape is placed underneath it to provide support at the mid-urethral level, the lateral extensions are brought out paraurethally onto the skin at the level of the pubic symphysis and the vaginal incision is closed.

690.

A. Ureteroneocystostomy

- In case of complete transection, urinary diversion by nephrostomy is advisable to tide over the crisis, followed later with repair surgery. In case the transection is recognized during surgery itself, the surgeon must either undertake anastomosis at the site of injury or implant the cut end of the ureter into the bladder or perform a Boari-flap operation of ureteroneocystostomy
- end to end ureteric anastomosis can be done but there are chances of stricture with it
- ileal conduit have several complication hence not used commonly

691.

A. Interrupted

Anterior colporrhaphy operation is performed to repair a cystocele and cystourethrocele.

- Traction is given on the cervix to expose the anterior vaginal wall.
- An inverted T-shaped incision is made in the anterior vaginal wall, starting with a transverse incision in the bladder sulcus. Through its midpoint, a vertical incision is extended up to the urethral opening
- The vaginal walls are reflected to either side to expose the bladder and vesicovaginal fascia
- The overlying vesicovaginal fascia is tightened, and the excess vaginal wall excised to correct the laxity. Then the vaginal is wall sutured by interrupted sutures

692.

D. All of the above

- The most frequent is imperfect control of micturition and stress incontinence. This imperfect control of micturition is caused by lack of support to the sphincter mechanism of the urethra
- Frequency of micturition is also a common symptom, caused in some, by chronic cystitis and in others, by incomplete emptying of the bladder
- In severe degrees of cystocele, patients frequently complain that they have difficulty in micturition, and that the more they strain, the less easily can they pass urine.

693.

C. Burch colposuspension

In Burch colposuspension which aims at vaginal suspension using the iliopectineal ligaments rather than the peritoneum of the back of the symphysis pubis, In this After the retropubic space is reached, nonabsorbable sutures of (3-4) polyglycolic acid are placed on the lateral fornices (paravaginal tissue)

684.

Vesicouterine fistula is a rare variety of fistula, usually caused during caesarean section or uterine rupture or placenta accreta. The patient's symptoms are unlike those of lower urinary tract fistula. The patient remains continent, as urine does not dribble into the uterine cavity. The patient however complains of cyclical haematuria, menstrual blood trickling through the fistula into the bladder

685.

B. UVF (Utero Vesicle Fistula)

A. Pelvic Floor Muscle Exercises

1st line of treatment in case of stress incontinence is conservative management :

1. Kegel pelvic floor exercises 4-6 months
2. Electric/magnetic stimulation for nerve damage, magnetic stimulation
3. Artificial urinary sphincter in neurological condition
4. Vaginal cones

Out of all these most preferred is kegel pelvic floor exercises, Pelvic floor exercises for 4-6 months with or without electrical stimulation make patient's life tolerable in 60% cases. Weight loss and exercise are all beneficial. It takes 8-12 weeks before any improvement is seen. Kegel pelvic floor exercises work best in younger women, mild stress incontinence associated with urethral hypermobility with no damage to internal sphincter. It is also effective in urge incontinence, as these exercises tone up the levator ani muscles and internal sphincter.

687.

A. Stress urinary incontinence

Bonney test is done as a part of bladder stress test, approximately 1 cup of fluid is put into bladder through the catheter and the catheter then removed and patient is asked to cough and we look for any fluid loss and for the time interval between stress (cough) and fluid loss

688.

A. Burch's colposuspension

Vaginal Operations:- These include anterior colporrhaphy, with plication of the bladder neck (**Kelly's repair**), or apposing the medial fibres of the puborectalis muscles in the midline under the bladder neck region to elevate the same (**Pacey's repair**). Abdominal Operations. These operations are of retropubic colposuspension like the Marshall-Marchetti-Krantz operation, and the Burch colposuspension which aims at vaginal suspension using the iliopectineal ligaments rather than the peritoneum of the back of the symphysis pubis.

Stamey's surgery is modification of combined abdominal and vaginal repair surgery

Out of all the given options maximum success rate is with burch colposuspension, Eighty-five per cent success is balanced against the development of enterocele and rectocele postoperatively due to



lateral to the bladder base and the bladder neck fixed to the ipsilateral iliopectineal ligament on either side
Development of enterocele and rectocele is seen in it postoperatively due to transmission of intra-abdominal pressure

694. A. Levator ani muscle

695. A. Hymen

Bader Walker Halfway's system of grading of prolapse is similar to Shaw's classification but uses the hymen as a reference point.

696. C. Pelvic floor repair

Anterior colporrhaphy and colpoepineorrhaphy are together called as pelvic floor repair.

697. A. Interrupted

The cut margins of the vagina are repaired by interrupted sutures.

698. B. Colposuspension

Colposuspension i.e. Burch colposuspension is done in SUI.

699. C. Cystocele-Colposuspension

Colposuspension (Burch colposuspension) is not a surgery for vault prolapse. It is done in SUI. Rest

all surgeries are done in vault prolapse. Surgery for cystocele is Anterior colporrhaphy.

700. A. VVF

Latzko repair/Chassar Moir technique/ Layer technique are all for repairing VVF.

701. C. Intrinsic sphincter deficiency is an indication

TVT acts by increasing urethral coaptation, kinking the urethra with the rise in abdominal pressure and not by elevating bladder neck hence option A is incorrect.

TVT is made from polypropylene (marlex) or polytetrafluoroethylene (Goretex) and not autologous sling material. Autologous sling material refers to natural sling materials made from rectus fascia or porcine dermis. These are less Antigenic; hence option B is incorrect.

TVT is done in case of intrinsic sphincter deficiency, i.e option C is correct.

Success rate of sling procedure are over 80%, i.e option D is incorrect

702. A. Abdominal sling surgery

Best surgery for prolapse when a female wants to conceive in future is - Abdominal sling surgery.

Gynae Oncology — Questions

703. M/C lymph node involved Ca Cervix :

- A. Obturator lymph nodeb
- B. Inguinal
- C. Internal iliac
- D. External iliac

704. All are true with regards to pregnancy luteoma except

- A. Can lead to virilization
- B. True tumor
- C. Bilateral usually
- D. Regress spontaneously after delivery

705. The investigation of choice in a 55-year-old postmenopausal women who has presented with postmenopausal bleeding is:

- A. Pap smear
- B. Fractional curettage
- C. Transvaginal ultrasound
- D. CA-125

706. A 45 years old lady presented with dysfunctional uterine bleeding. On transvaginal USG thickness of endometrium was found to be 8 mm. What should be the next step in the management of this patient?

- A. Histopathology
- B. Hysterectomy
- C. Progesterone
- D. OCP

707. TOC of endometrial hyperplasia without atypia in a 32-year-old female:

- A. Hysterectomy
- B. OCP
- C. Medroxyprogesterone
- D. GnRH analog

708. The following are precursors of endometrial carcinoma except:

- A. Atypical adenomatous hyperplasia
- B. Atrophic endometrium
- C. Adenocarcinoma in situ
- D. Cystic hyperplasia

709. Most malignant variety of endometrial carcinoma:

- A. Endometrioid
- B. Papillary serous
- C. Clear cell carcinoma
- D. Adenosquamous carcinoma

710. M/C cause of postmenopausal bleeding:

- A. HRT
- B. Endometrial atrophy
- C. Endometrial cancer
- D. Cervix cancer

711. Percentage of postmenopausal bleeding patients who have endometrial cancer:

- A. 5%
- B. 10%
- C. 20%
- D. 25%

712. A 52-year-old menopausal female presents with single episode of postmenopausal bleeding. TVS shows endometrial of uniform thickness

of 6 mm. What is the most appropriate step in management?

- A. Perform fractional curettage
- B. Perform hysteroscopy and biopsy
- C. Perform pipelle aspiration
- D. Do TAH

713. Screening is not done for following cancer:

- A. Cancer cervix
- B. Cancer breast
- C. Cancer ovaries
- D. Cancer endometrium

714. A 54-year-old female presents with postmenopausal bleeding. Biopsy shows endometrioid variety of endometrial cancer of 1 cm in the uterine fundus histology shows grade 1 tumor. MRI shows <50% of myometrial involvement. Next step in management is:

- A. TAH + BSO
- B. TAH + BSO with pelvic lymphadenectomy
- C. TAH + BSO with pelvic and para-aortic lymphadenectomy
- D. TAH + BSO followed by RT

715. A 56-year-old female presents with postmenopausal bleeding. A diagnosis of grade II clear cell carcinoma is made. MRI reveals < 50% of myometrial invasion:

- A. TAH + BSO
- B. TAH + BSO with pelvic lymphadenectomy
- C. TAH + BSO with pelvic and para-aortic lymphadenectomy
- D. TAH + BSO followed by RT

716. Drug useful in stage III & IV of endometrial cancer:

- A. Danazol
- B. Cisplatin
- C. Levonorgestrel
- D. Busulfan

717. Increased risk of endometrial cancer in HNPCC syndrome on Lynch II is M/C associated with alteration in gene:

- A. MSH 3
- B. MSH 6
- C. MLH 1
- D. PMS 1

718. In a 65-year-old female with adenocarcinoma of endometrium, the most important prognostic factor is:

- A. Lymph node status
- B. Ca 125 levels
- C. Histologic variety of tumor
- D. Nutritional status

719. The risk of endometrial cancer is highest with the following histological pattern of endometrial hyperplasia:

- A. Simple hyperplasia without atypia
- B. Simple hyperplasia with atypia
- C. Complex hyperplasia without atypia
- D. Complex hyperplasia with atypia

703. a	704. b	705. b	706. a	707. c	708. b	709. c	710. b	711. b	712. c	713. d
714. a	715. c	716. b	717. c	718. a	719. d					



- 720. Endometrial hyperplasia is seen in:**
 A. Endodermal sinus tumor
 B. Dysgerminoma
 C. PCOD
 D. Ca cervix
- 721. What is the ideal treatment for a 55-year-old female with simple hyperplasia of endometrium with atypia?**
 A. Simple hysterectomy
 B. Medroxyprogesterone acetate (MPA)
 C. Levonorgestrel (LNG)
 D. IUCD
- 722. All of the following are known risk factors for development of endometrial carcinoma except:**
 A. Obesity
 B. Family history
 C. Use of hormone replacement therapy
 D. Early menopause
- 723. Which of the following is not seen with corpus cancer syndrome in cancer endometrium?**
 A. Multiparity
 B. Diabetes mellitus
 C. Hypertension
 D. Obesity
- 724. The most malignant endometrial carcinoma is:**
 A. Adenocarcinoma
 B. Adenoacanthoma
 C. Mixed adenosquamous carcinoma
 D. Clear cell carcinoma
- 725. Investigation of choice in a 55-year-old postmenopausal woman who has presented with postmenopausal bleeding:**
 A. Pap smear
 B. Fractional curettage
 C. Transvaginal ultrasound
 D. CA -125 estimation
- 726. A lady presented with carcinoma endometrium involving >50% of myometrium extending to vagina and positive peritoneal cytology but no involvements of para aortic and preaortic nodes. What is the stage of disease?**
 A. III A
 B. III B
 C. III C1
 D. IIIC2
- 727. Choice of adjuvant treatment for endometrial carcinoma stage I A grade I is:**
 A. Radiotherapy
 B. Chemotherapy
 C. Chemotherapy + Radiotherapy
 D. No treatment
- 728. The following are indications for postoperative radiotherapy in a case of carcinoma endometrium except:**
 A. Myometrial invasion of more than half thickness
 B. Positive lymph nodes
 C. Endocervical involvement
 D. Tumor positive for estrogen receptors
- 729. Indication for radiotherapy in carcinoma endometrium include all except:**
 A. Pelvic node involvement
 B. Deep myometrial involvement
 C. Enlarged uterine cavity
 D. Poor differentiation
- 730. All are true about TZ except:**
 A. It is a dynamic point
 B. CIN originate from TZ
 C. Gland openings & Nabothian cyst mark the original SCJ
 D. SCJ is limited to external os.
- 731. Transformation zone moves out under the influence of all except:**
 A. Age
 B. Pregnancy
 C. OCP's
 D. Puberty
- 732. All of the following are risk factors for cancer cervix except:**
 A. Early age of intercourse
 B. Early menarche
 C. Smoking
 D. Multi parity
- 733. All are true with regards to Adeno carcinoma of cervix except:**
 A. M/C site Transformation zone
 B. M/C in young females
 C. M/C in OCP users
 D. Associated with HPV-18
- 734. All are true with regards to HPV except:**
 A. It is epitheliotropic
 B. Viral proteins needed for malignant transformation are E6, E7
 C. Viral protein needed for replication E1, E2
 D. E6 acts via Retino blastoma gene
- 735. Pap smear is useful in the diagnosis of all except:**
 A. Gonorrhea
 B. Trichomonas vaginalis
 C. Human papilloma virus
 D. Inflammatory changes
- 736. All of the following are screening methods for CIN except:**
 A. Colposcopic guided biopsy
 B. Pap smear
 C. HPV DNA testing
 D. Visual inspection with acetic acid
- 737. Colposcopic features suggestive of malignancy are all except:**
 A. Condyloma
 B. Vascular atypia
 C. Punctuation
 D. White epithelium

720. c	721. a	722. d	723. a	724. d	725. b	726. b	727. d	728. d	729. c	730. d
731. a	732. b	733. a	734. d	735. a	736. a	737. a				

738. A patient complains of post coital bleed; no growth is seen, on per speculum examination; next step should be:

- A. Colposcopy biopsy
- B. Conisation
- C. Repeat pap smear
- D. Culdoscopy

739. 30-year-old female undergoes pap smear. Her report shows presence of atypical squamous cells of unknown significance. What is the next best step in management?

- A. Repeat pap smear in 6 months
- B. Repeat pap smear in 2 years
- C. perform colposcopy
- D. HPV-DNA testing

740. In continuation to QN13, HPV DNA testing shows infection with high risk HPV types. What is the next step in management?

- A. Perform colposcopy
- B. Perform cryotherapy
- C. Perform LEEP
- D. Repeat smear and HPV test in 1 year

741. Rekha a 45-year-old woman has negative pap smear with +ve endocervical curettage. Next step in management will be:

- A. Colposcopy
- B. Vaginal hysterectomy
- C. Conization
- D. Wertheim's hysterectomy

742. A 35-year-old P2C2 female has CIN grade III confirmed on papsmear and Colposcopy. Next step in management is:

- A. Conization
- B. LEEP
- C. Cryosurgery
- D. Hysterectomy

743. A 35-year-old P2L2 female has CIN extending to vaginal fornix, confirmed on colposcopy Best management:

- A. Conization
- B. LEEP
- C. Cryosurgery
- D. Laser

744. M/C Variety of cancer cervix:

- A. Large cell Keratinizing
- B. Large cell non Keratinizing
- C. Small cell
- D. Verroccous cancer

745. M/C site of metastasis of Ca cervix is:

- A. Lymph node
- B. Lungs
- C. Bone
- D. Abdominal cavity

746. An intravenous pyelogram (IVP) showing hydronephrosis in the work up of a patient with cervical cancer otherwise confined to a cervix of normal size would indicate stage:

- A. I
- B. II
- C. III
- D. IV

747. If stage Ib cervical cancer is diagnosed in a young woman, while performing radical hysterectomy which structure would you not remove:

- A. Uterosacral and uteroovesical ligament
- B. Pelvic LN
- C. Both ovaries
- D. Upper third of vagina

748. Point B in the treatment of carcinoma cervix receives the dose of:

- A. 7000 cGy
- B. 6000 cGy
- C. 5000 cGy
- D. 10,000 cGy

749. A 55-year-old lady diagnosed with cancer cervix and treated with radiotherapy, develops uremia. M/c cause of uremia in this patient is:

- A. Radiation nephritis
- B. B/L ureter invasion
- C. Ureteric stenosis due to radiation
- D. CRF

750. Which of the following treatment modalities is most appropriate in the management of a 30-year-old female diagnosed with a stage Ia2 squamous cell carcinoma of the cervix?

- A. Cervical conization
- B. Type 1 hysterectomy
- C. Type II hysterectomy without pelvic lymph node dissection
- D. Type II hysterectomy with pelvic lymph node dissection

751. Poor prognostic factor in the management of cancer cervix are all except:

- A. Young age
- B. Well differentiated squamous cell carcinoma
- C. Hydroureter
- D. Aderocarcinoma

752. A 47-year-old female is diagnosed with cervical cancer. Which lymph node would be first involved lot metastatic spread of this disease beyond the certra and uterus:

- A. Internal iliac lymph node
- B. Obturation node
- C. External iliac node
- D. Paracervical node

753. A 35-year-old woman with one child is found to have a visible cervical lesion measuring 2 cms. Biopsy shows squamous cell carcinoma of cervix. The lesion is con-fined to cervix. She wants to preserve her fertility. What is the most appropriate treatment?

- A. Chemoradiation
- B. Cone biopsy
- C. Radical tracheostomy with lymph node dissection
- D. Radical tracheostomy

754. A patient is diagnosed to have CIN II. She approaches you for advice. You can definitely tell her the risk of malignancy as:

- A. 15%
- B. 60%
- C. 30%
- D. 5%

738. c	739. d	740. a	741. c	742. b	743. d	744. b	745. a	746. c	747. c	748. b
749. b	750. d	751. b	752. d	753. c	754. d					



- 755. All of the following changes are seen in dysplasia of squamocolumnar junction, except:**
- Breaking of basement membrane
 - Change of epithelium
 - Hyperchromatic nuclei
 - Increased mitotic figure
- 756. Acetic acid staining of cervix shows following except:**
- Squamous dysplasia
 - Cervical carcinoma in situ
 - Cervical polyp
 - Cervical dysplasia
- 757. Pap smear of Lelawati 45 years female shows CIN grade III. Which of the following is the next step in management:**
- Punch biopsy
 - Large loop excision
 - Colposcopy directed biopsy
 - Cone biopsy
- 758. A 35-year-old lady with post coital bleeding management is:**
- Clinical examination and pap smear
 - Visual examination with lugol iodine
 - Visual examination with acetic acid
 - Colposcopy
- 759. Meena 45-years-old female presents with post coital bleeding. On per speculum examination a friable mass is found in cervix. Next step in management is:**
- Colposcopy directed biopsy
 - 6 monthly pap smear
 - Only observation
 - Punch biopsy
- 760. Which of the following statements is not true about cervical cancer screening guidelines according to WHO?**
- Pap smear should be repeated yearly in women of reproductive age group
 - HPV test should be done five yearly in women between age of 30 and 49 years
 - Visual inspection with acetic acid is more reliable at older age as it becomes easier to identify the transformation zone with age
 - Pap smear can be repeated less frequently if it comes out negative for 3 consecutive years
- 761. A lady undergoes radical hysterectomy for stage Ib cancer cervix. It was found that cancer extends to lower part of body of uterus and upper part of cervix next step of management will be:**
- Chemotherapy
 - Radiotherapy
 - Chemoradiation
 - Follow-up
- 762. A 55-year-old woman was found to have Ca cervix, FIGO stage 2-3, locally advanced. What would be the management?**
- Surgery plus chemotherapy
 - Radiotherapy plus chemotherapy
- 763. All of the following are germ cell tumors of the ovary except:**
- Teratoma
 - Fibroma
 - Dysgerminoma
 - Endodermal sinus tumor
- 764. Sex cord stromal tumors of the ovary include all except:**
- Luteomas
 - Gynandroblastomas
 - Sertoli-Leydig cell tumors of the ovary
 - Theca-fibroma
- 765. M/C functional cyst of ovary is**
- Chocolate cyst
 - Follicular cyst
 - Dermoid cyst
 - Corpus luteal cyst
- 766. Lutein cysts are associated with all except:**
- Gestational trophoblastic tumors
 - Clomiphene administration
 - Bilaterality
 - Use of OCP's
- 767. A 52-years-old postmenopausal female presents unilocular with a ovarian cyst of 6 cm with normal Ca125 levels management is**
- USG guided ovarian tapping
 - Wait and watch
 - Surgery
 - OCP
- 768. M/C benign ovarian tumor is:**
- Serous cystadenoma
 - Mucinous cystadenoma
 - Mature cystic teratoma
 - Immature cystic teratoma
- 769. Psammoma bodies are seen in:**
- Serous tumors
 - Brenner tumor
 - Fibroma
 - Endodermal sinus tumor
- 770. Dash and dot appearance on USG is seen in:**
- Adenomyosis
 - Dermoid cyst of ovary
 - Molar pregnancy
 - Serous tumors of ovary
- 771. Percentage chances of ovarian cancer, in first degree relatives, if a 65 years old female dies to ovarian cancer within first year of its detection:**
- 3%
 - 10%
 - 15%
 - No risk
- 772. M/C gene mutation in epithelial cell ovarian tumors:**
- p 53 gene
 - KRAS
 - BRCA
 - PTEN

755. a	756. c	757. c	758. a	759. d	760. a	761. d	762. b	763. b	764. a	765. b
766. d	767. b	768. a	769. a	770. b	771. d	772. a				



- 773. M/C ovarian cancer associated with endometriosis:**
 A. Endometroid tumor
 C. Germ cell tumor
 B. Clear cell tumor
 D. Brenner tumor
- 774. Para-aortic lymph node involvement is seen in which stage of ovarian cancer:**
 A. Stage IIA
 C. Stage III A
 B. Stage II B
 D. Stage III B
- 775. Germ cell tumor with the best prognosis:**
 A. Dysgerminoma
 B. Teratoma
 C. Endodermal sinus tumor
 D. Embryonal carcinoma
- 776. Ovarian tumor seen in dysgenetic gonads:**
 A. Serous cystadenocarcinoma
 B. Endodermal sinus tumor
 C. Granulosa cell tumor
 D. Dysgerminoma
- 777. The following statements are related to Krukenberg tumor except:**
 A. It is always secondary
 B. The most common primary site is pylorus of the stomach
 C. The tumor is bilateral
 D. 'Signet ring' looking cells are characteristic
- 778. All of the following are known risk factors for the development of ovarian carcinoma except:**
 A. Family history of ovarian carcinoma
 B. Use of oral pills
 C. Use of Clomiphene
 D. BRCA -1 positive individual
- 779. Which of the following strategy has been recommended to reduce the heredity risk for ovarian cancer in women with BRCA -1 and BRCA - 2 mutations?**
 A. Use of oral contraceptive pills
 B. Screening with transvaginal ultrasound
 C. Screening with CA -125
 D. Prophylactic oophorectomy
- 780. Which of the following is the most radiosensitive ovarian tumors?**
 A. Dysgerminoma
 B. Dermoid cyst
- 781. Which of the following is correct regarding granulosa cell tumor of ovary?**
 A. Common in puberty
 B. Associated with Ca endometrium
 C. Malignant change occur rarely
 D. It is bilateral
- 782. Smt. Pushpa is a suspected case of ovarian tumors. On laparotomy bilaterally enlarged ovaries with smooth surface was seen:**
 A. Granulosa cell tumor
 B. Krukenberg tumor
 C. Dysgerminoma
 D. Primary adenocarcinoma
- 783. Pain of ovarian carcinoma is referred to:**
 A. Back of thigh
 B. Cervical region
 C. Anterior surface of thigh
 D. Medial surface of thigh
- 784. All are components of Meig's syndrome, except:**
 A. Pleural effusion
 C. Ascites
 B. Ovarian tumor
 D. Pericardial effusion
- 785. The pseudomyxoma peritonei occurs as a complication of the following ovarian tumors:**
 A. Serous cystadenoma
 B. Mucinous cystadenoma
 C. Dysgerminoma
 D. Gonadoblastoma
- 786. Attacks of flushing and cyanosis occur in which type of ovarian tumors:**
 A. Struma ovarii
 B. Krukenberg's tumor
 C. Arrhenoblastoma
 D. Carcinoid tumors of ovary
 E. Granulosa cell tumor
- 787. Most common ovarian cyst to undergo torsion:**
 A. Benign cystic teratoma
 B. Dysgerminoma
 C. Ovarian fibroma
 D. Brenner's tumor

773. b	774. c	775. a	776. d	777. a	778. b	779. d	780. a	781. b	782. b	783. d
784. d	785. b	786. d	787. a							

Gynae Oncology — Explanations

703. **A. Obturator lymph node.**

- M/c Lymphnode involved in Ca cervix: obturator LN
- 1st Lymphnode involved in Ca cervix: paracervical LN

704. **B. True tumor**

Pregnancy luteoma

- It is a hyperplastic mass of luteinized ovarian cells.
- Not a true tumor
- Size of luteomas = 6-10 cms
- Usually bilateral
- Virilization during pregnancy can raise the suspicion of pregnancy luteoma
- Only one-third of pregnancy luteomas are associated with maternal hirsutism or virilization (This is because any increase in serum-free testosterone is accompanied by an increase in sex hormone – binding globulin (SHBG))
- It regresses promptly after delivery

705. **B. Fractional curettage**

In postmenopausal bleeding:

- 1st Investigation: TVS
 - IOC: Endometrial biopsy
 - Gold standard: Fractional curettage
- Since endometrial biopsy is not given in options: -
Best answer is Fractional curettage

706. **A. Histopathology**

A 45 years old lady is presented with DUB:

- Chances of endometrial hyperplasia / neoplasia are high.
- TVS findings show thickness of endometrium as 8 mm, so obviously next step would be to an endometrial biopsy, i.e. histopathological examination.

707. **C. Medroxyprogesterone acetate**

708. **B. Atrophic endometrium**

Premalignant Lesions of endometrial cancer

- Simple hyperplasia (cystic glandular hyperplasia and complex hyperplasia with or without atypia)
- Carcinoma in situ

709. **C. Clear cell carcinoma**

Most malignant variety of endometrial cancer: Clear cell carcinoma > papillary serous tumor
Most common variety is: Endometrioid (Adenocarcinoma)

710. **B. Endometrial atrophy**

711. **B. 10%**

Postmenopausal bleeding	
Cause	Percentage
Endometrial atrophy (M/C)	60-80
ERT	15-25%
Endometrial polyp	2-12
Endometrial hyperplasia	5-10%
Endometrial cancer	10%

712. **C. Perform pipelle aspiration**

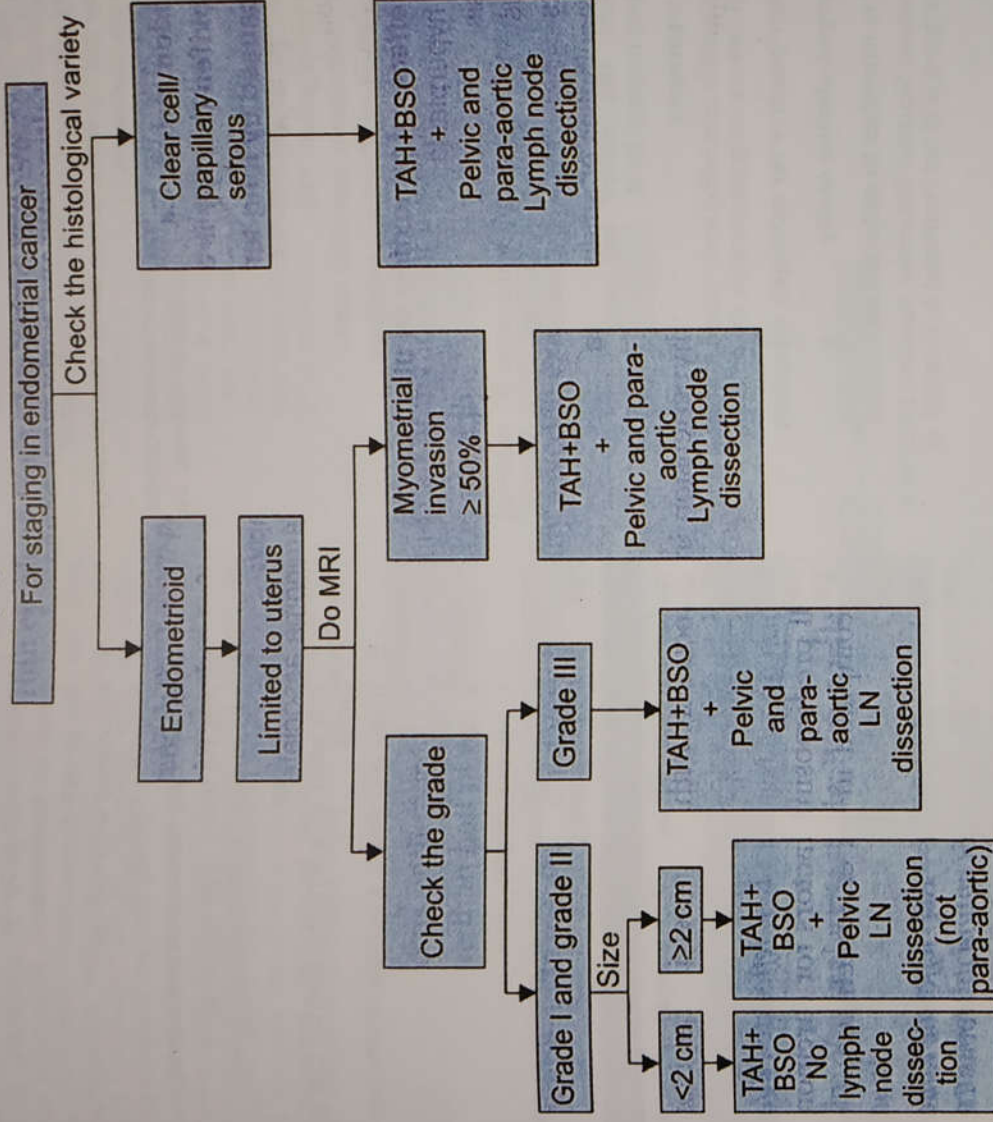
713. **D. Cancer endometrium**

Cancer endometrium

- No universal screening
- Screening done only in HNPCC syndrome
- Screening method in them
 - Pelvic examination
 - TVS
 - Endometrial sampling
- Best screening method of them
 - Fractional curettage
- Age of screening = ≥ 35 years
- Best method to prevent cancer = TAH + BSO once family is complete in these patients

714. **A. TAH + BSO**

715. C. TAH + BSO with pelvic and para-aortic lymphadenectomy



716. B. Cisplatin

717. C. MLH1

- Gene mutation M/C responsible for Endometrial cancer in HNPCC syndrome, i.e. Lynch II syndrome is MLH 1
- Gene mutation M/C responsible for colon cancer in HNPCC syndrome - MSI.

718.

A. Lymph node status

Most important prognostic factor in endometrial cancer is lymph node status followed histological variety.

719.

D. Complex hyperplasia with atypia

720.

C. PCOD

Endometrial hyperplasia specially simple hyperplasia results from circumstances in which there is prolonged, increased estrogen production example:

- Follicular cysts of ovary
- PCOD
- Granulosa and theca cells
- HRT.

721. A. Simple hysterectomy

Management of Atypical Endometrial Hyperplasia:

"Hysterectomy is the best treatment for women at any age with atypical endometrial hyperplasia because the risk of concurrent subclinical invasive disease is high."

"In presence of atypia, response to progesterone therapy is poor and relapse rate is high. Nearly one-third of them will progress to cancer and one-fourth may already have associated undiagnosed cancer. In women approaching or past menopause, hysterectomy is a safer choice in those with complex or atypical hyperplasia."

722. D. Early menopause

723. A. Multiparity

Combination of diabetes, obesity and hypertension in association with endometrial carcinoma is called as the Corpus Cancer Syndrome.

724. D. Clear cell carcinoma

Clear cell carcinoma:

- It accounts for < 5% of all endometrial carcinoma.

- Most characteristic histological finding is presence of "hobnail cells".
- It characteristically occurs in older women and is very aggressive type of endometrial cancer.
- Prognosis is similar to or worse than papillary serous carcinoma.

M/C variety of endometrial cancer = Adenocarcinoma
Most malignant is clear cell carcinoma followed by Papillary serous variety.

725. B. Fractional curettage

For postmenopausal bleeding

- 1st investigation: TVS
- IOC: Endometrial aspiration biopsy
- Gold standard: Fractional curettage

Now since endometrial aspiration biopsy is not given in the options, we will go for fractional curettage

726. B. III B

50% myometrial invasion means stage IC, positive peritoneal cytology puts it in stage III A Vaginal metastasis means stage III B cancer and since this is the highest stage.

Therefore, this patient has endometrial cancer belonging to stage III B.

727. D. No treatment

As discussed in preceding text - Stage Ia grade 1 and grade II require no postoperative treatment.

728. D. Tumor positive for estrogen receptors

729. C. Enlarged uterine cavity

730. D. SCJ is restricted to external os

As discussed Squamo Columnar Junction (SCJ) is a dynamic point & is not restricted to External os.

731. A. Age

Squamo columnar insction/Transportation zone

- SCJ is found in external os in neonates
- But it is a dynamic part & does not remain restricted to it. It moves with age and hormonal influence.

- The original SC Junction is marked by the presence of nobothian cysts and glandular openings.

The TZ moves inside (not out) with age.
It moves out

- In pregnancy
- at puberty
- with OCp use

- M/c site of origin of CIN or cancer cervix is Transformation Zone.

732. B. Early menarche

Early Menarche and Late menopause are risk factors for endometrial cancer and ovarian cancer, not cervical cancer.

Likewise familial inheritance plays a role in ovarian cancer and endometrial cancer, not cervical cancer.

733. A. M/c site is transformation zone

M/c cancer cervix = squamous cell cancer

M/c site of cancer cervix = Transformation zone
Adenocarcinoma of cervix

- M/c in young females
- M/c in OCP users
- Associated with HPV-18
- M/c site : Endocervix

734. D. E6 acts via Retinoblastoma gene

E6 acts via tumor suppression gene
E7 acts through Retinoblastoma gene.

735. A. Gonorrhea

- It is used as a screening test for CIN and cancer cervix.
- It can also detect a number of infection like:
 - Trichomonas
 - Candida
 - Actinomyces
 - Herpes simplex virus
 - Koilocytosis of human papillonea viruses

736. A. Colposcopic guided biopsy.

Screening methods	Diagnostic method
Papsmear (conventional/liquid based)	Lesion visible = Punch biopsy
VIA (visual inspection with acetic acid)	Lesion not visible = Colposcopy/colposcopic biopsy
VILI (visual inspection with lugols iodine)	Cone biopsy
Automated image guided slide screening system (EDA approved)	
HPV DNA Testing	

737. A. Condyloma.

Abnormal features on colposcopy which need to be biopsied.

Before applying acetic acid	• Leukoplakia • Rough area
After applying acetic acid	• Aceto white area • Abnormal (atypical) vascular pattern • Reticular pattern • Mosaic pattern • Punctate pattern

738. C. Pap smear

739. D. Do HPV DNA testing

As discussed in the text - when a pap smear report comes as ASCUS, in that case there are 3 options:

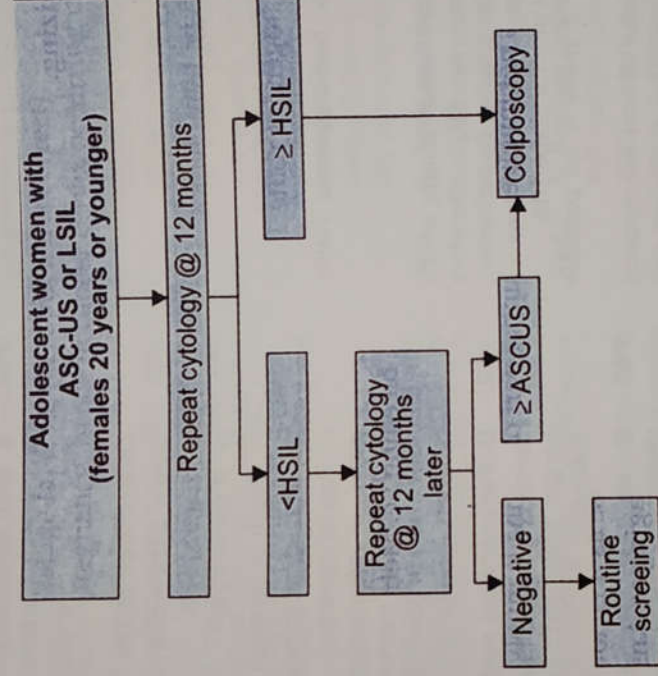
- Repeat a pap @ 6 months and 12 months. If pap smear report is > ASCUS → do a colposcopy.
 - Do HPV DNA testing. If it is positive then colposcopy done.
 - Directly proceed to colposcopy.
- Immediate colposcopy is assumed to be the most sensitive method of detecting CIN 2 or 3. Because

80% of patients will not have significant lesions, it is important to avoid over interpretation of the colposcopic findings and to be conservative in performing biopsies. There is the risk that pathologists will overinterpret the biopsy results and the patient will be diagnosed with CIN 2/3 when metaplasia is the only finding.

Several studies documented the usefulness of HPV testing in the assessment of ASC-US Pap test results. These studies demonstrate that HPV testing can identify 90% of the patients with CIN 2 or 3 lesions. To compare the aforementioned triage method in a prospective, randomized fashion, the NCI funded an ASC-US/LSIL Triage Study (ALTS). Patients with

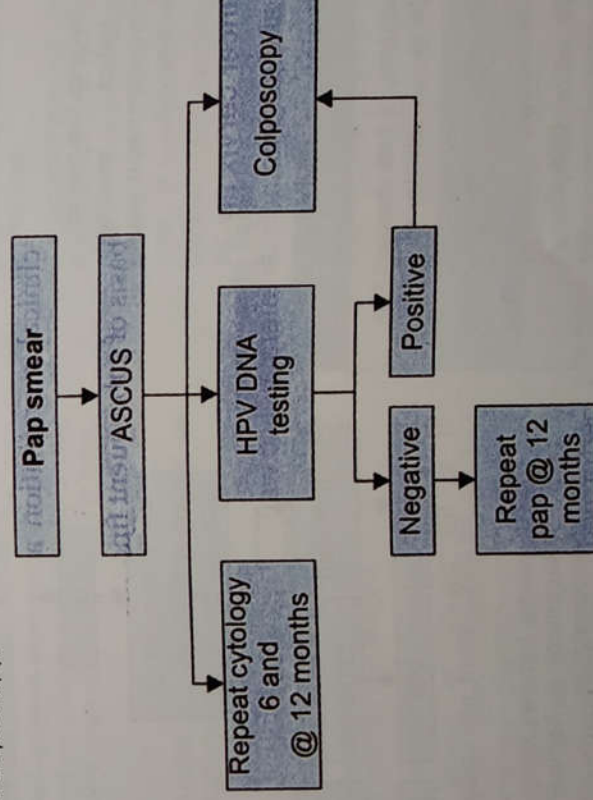
ASC-US or LSIL were randomized to three triage arms: (i) immediate colposcopy, (ii) HPV test, and (iii) conservative management by repeat Pap test. The conclusion of the ALTS trial is that HPV triage is highly sensitive in identifying CIN2 and CIN3 lesion and that it cuts the rate of referral for colposcopy by approximately half of HPV test is negative the risk of having CIN (2 or 3) is less than 2%.

Note: In adolescent girls if report comes as ASCUS - the chances of having invasive cancer is less and likelihood of HPV clearance is very high. Therefore in their best thing is to follow up with repeat cytology @ 12 months.



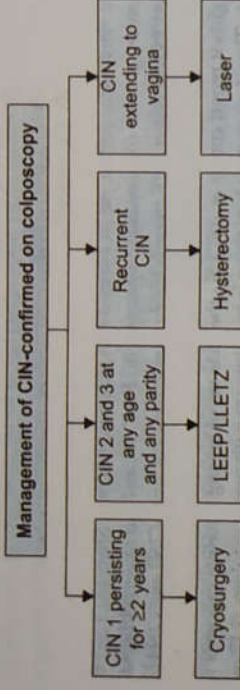
740. A. Perform colposcopy.

In females (> 20 years) with pap test report comes as ASCUS - best is: Do HPV DNA testing. If HPV DNA testing comes out positive, then do colposcopy.



741. C. Conization.

Whenever endocervical curettage is positive, it could mean adeno carcinoma of endocervix. Therefore it should be followed by cone biopsy/conization as by colposcope upper part of endocervix cannot be visualized.

742. B. LEEP.**743. D. Laser.****744. B. Large cell non keratinizing.****745. A. Lymph nodes.**

M/C route of spread of Ca Cervix: Lymphatics

M/C site of metastasis: Lymph nodes

M/C site of metastasis by hematogenous route: Lungs.

746. C. State III

The investigation done is IVP which is one of the recommended investigations by FIGO therefore results of IVP are important for staging. By definition, a positive IVP would mean ureter is involved i.e extension to pelvic side wall and i.e Stage IIIB. Such staging applies even if there is no palpable tumor beyond the cervix.

FIGO stage is based on careful clinical examination and the results of specific radiological studies and procedures. These should be performed and stage should be assigned before any definitive therapy is administered. The clinical stage should never be changed on the basis of subsequent findings.

747. C. Both ovaries

Cancer cervix rarely involves the ovaries. Therefore when radical/ modified radical hysterectomy are being performed in young females, ovaries should not be removed.

748. B. 6000 cGy

Two important points in the radiotherapy of cancer cervix are

	Point A	Point B
Location	2 cm above and 2 cm lateral to external os	2 cm above and 5 cm lateral to external os
Structure represented	Paracervical/parametrial lymph node	Obturator lymph node
Dose of radiation	7000 - 8000 cGy	6000 cGy

749. B. B/L ureter invasion.

M/C cause of uremia in cancer cervix is B/L ureteric invasion

750. D. Type II hysterectomy with pelvic node dissection.

In stage Ia2:

Young females: Radical Trachelectomy with Pelvic Lymph Node Dissection

Older females: Wertheims Hysterectomy with Pelvic Lymph Node Dissection. Now since in options- Radical Trachelectomy is not given, hence we will do Wertheims Hysterectomy with Pelvic LN Dissection.

751. B. Well differentiated squamous cell carcinoma prognostic factors for Ca cervix

Most important prognostic marker is lymph node involvement

Others: Size of Tm

Size < 2 cm = Survival rate = 90%

> 2 cm = 60%

> 4 cm = 40%

- Depth of invasion
- Parametrial involvement
- Age of patient

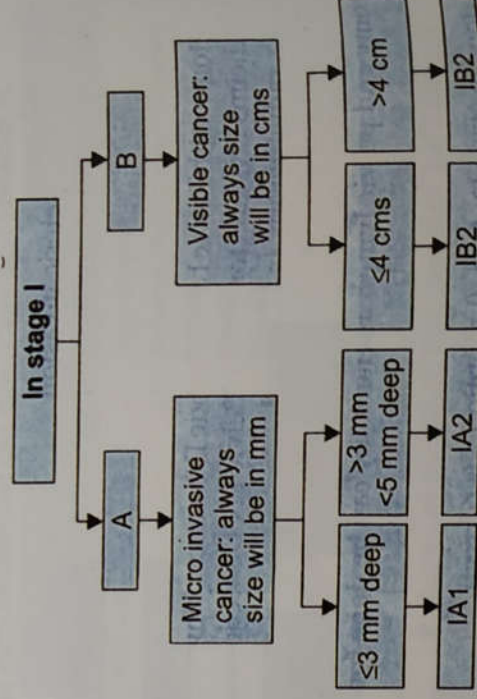
Although differentiation of tumor is not mentioned as prognostic marker, obviously well differentiated tumor is a good prognostic marker not poorly differentiated tumor.

752. D. Paracervical node

Sentinel LN in cancer cervix: paracervical/ureteric lymph node M/C LN involved in cancer cervix: obturator.

753. C. Radical Trachelectomy with lymph node dissection.

In this case the female has cancer confined to cervix i.e. it is Stage I



So this patient has cancer 2 cm is size which means IB1.

In young females with IB1 for cancers < 2 cms:- Management is Radical Trachelectomy with lymph node dissection.

**D. 5%**

Rate of progression of CIN

	CIN I	CIN II	CIN III
Regression to Normal	80%	40%	30%
Persistence	10-20%	35%	50%
Progression to CIN III	1-4%		20%
Progression to cancer	<1%	5%	20%

755. A. Breaking of basement membrane

Dysplasia: Represents a change in which there is alteration in cell morphology and disorderly arrangement of the cells of the stratified squamous epithelium. It is a premalignant lesion.

Characteristics of Dysplastic cell:

- Vary in size^o, shape^o and polarity^o.
- Have altered nucleocytoplasmic ratio (N/C ratio is increased)^o.
- Have large, irregular hyperchromatic nuclei with marginal condensation of chromatin material.^o
- Have several mitotic figures.
- The basement membrane, however, is intact and there is no stromal infiltration.

756. C. Cervical polyp

Colposcopy or acetic acid can detect dysplasia and cancer in situ. With a colposcope you can see a polyp but it does not need acetic acid staining, hence it is ruled out

757. C. Colposcopy directed biopsy

- Pap smear is only a screening test. To confirm we need to do a biopsy.
- In all visible lesions punch biopsy should be done
- In case of invisible lesion colposcopic directed biopsy is the gold standard. Thus in this case since it is not mentioned growth is visible so we do colposcopy guided biopsy.

758. A. Clinical examination and pap smear

As discussed earlier, patient complaining of post coital bleeding, should be investigated by pap smear. If pap smear is positive then only colposcopy is done.

759. D. Punch biopsy**760. A. Pap smear should be repeated yearly in women of reproductive age group.****761. D. Follow Up**

Postoperatively it was found that carcinoma extends to the lower part of uterus. Now this is a trap because uterine extension has no significance in cancer cervix and does not change the staging.

762. B. Radiotherapy plus chemotherapy

Best for cervical cancer of (stages IIB to IV A) is chemoradiation (i.e. chemotherapy and radiotherapy), where by cisplatin is used as a radiosensitiser to increase the sensitivity of the cells to radiotherapy before giving radiotherapy. Since in this question -chemotherapy + radiotherapy is given as one of the options, hence, we will mark it as the correct option.

763. B. Fibroma**764. A. Luteomas**

SEX CORD Stromal Tumors

- Granulosa cell tumors
- Thecomas, fibromas
- Sertoli-Leydig cell tumors (androblastoma)
- Gynandroblastoma (mixed)

Sex cord stromal tumors constitute 6-10 percent of all ovarian neoplasms. Peak incidence is over the age of 50. As 15-30 percent of these tumors produce hormones, they are also known as functioning tumors.

765. B. Follicular cyst**766. D. Use of OCP's**

Lutein cysts are usually bilateral and caused by excessive chorionic gonadotropin secreted in cases of gestational trophoblastic tumors. These may also be formed with administration of gonadotropins or even clomiphene to induce ovulation. These are usually lined either by theca lutein cells called theca lutein cyst or by granulosa lutein cells, called granulosa lutein cyst.

Spontaneous regression is expected within few weeks following effective therapy of the tumors with the gonadotropin level returning back to normal.

767. B. Wait and watch

In postmenopausal women with unilocular cyst measuring 7 or less with normal serum CA125 levels, expectant management is acceptable.

768. A. Serous cystadenoma

M/C benign tumor of ovary is Serous cystadenoma.

M/C benign tumor of ovary in reproductive age group is dermoid cyst.

769. A. Serous tumor**770. B. Dermoid cyst of ovary****771. D. No risk**

If a postmenopausal female develops ovarian cancer, it is sporadic and hence there is no risk in 1st degree relative. If one 1st degree relative of premenopausal female has ovarian cancer—risk is increased by 10%. If two 1st degree relatives of premenopausal females have ovarian cancer—risk is increased by 35-40%.

772. A. p53 gene mutation**773. B. Clear cell tumor**

M/C ovarian cancer associated with endometrial cancer: Endometrioid tumor

M/C ovarian cancer associated with endometriosis: clear cell carcinoma

774. C. Stage III A

In ovarian cancer

Pelvic lymph nodes are involved in stage IIB

Para aortic lymph nodes are involved in stage III A

Inguinal lymph nodes are involved in stage IV B.

**775. A. Dysgerminoma**

GCT with best prognosis - dysgerminoma
GCT with worst prognosis - Endodermal sinus tumor

776. D. Dysgerminoma

Most common cancer in dysgenetic gonads is Dysgerminoma

777. A. It is always secondary

- Krukenberg tumor is generally a metastatic tumor to the ovary. But "krukenberg tumor may be a primary tumor"
- The most common primary sites from where metastases to the ovaries occur are gastrointestinal tract (pylorus, colon and rarely small intestine), gallbladder, pancreas, breast and endometrial carcinoma.
- These are usually bilateral tumors which maintain shape of the ovary. Histologically 'signet ring' looking cells are characteristic of krukenberg tumor.
- In most patients with Krukenberg's tumors, the prognosis is poor. Median survival being less than a year. Rarely, no primary site can be identified and the Krukenberg's tumor may be a primary tumor.

Metastatic tumors from the GI tract can be associated with sex hormone (estrogen and androgen) production.

Patient may present with postmenopausal bleeding.

778. B. Use of oral pills**779. D. Prophylactic oophorectomy**

Strategies for prevention of hereditary ovarian cancer

- Genetic testing for susceptibility to ovarian cancer is rapidly becoming integrated into the clinical practice of oncology. Strategies have been adopted to reduce the incidence of ovarian cancer in patient with BRCA-1 and BRCA-2 mutations.

a) Prophylactic oophorectomy:

"The only proven way to prevent ovarian cancer is surgical oophorectomy. As another possible site of disease among these high risk patients is fallopian tube therefore should be removed. IN BRCA 1 or BRCA-2 mutation carriers, prophylactic bilateral salpingo-oophorectomy (BSO) may be performed on either completion of childbearing or at age 35. In these patients, the procedure is approximately 90% effective in preventing epithelial ovarian cancer. In women with HNPCC, the risk reduction approaches 100%."

- Additional benefit of prophylactic oophorectomy is that the risk of breast cancer is reduced by 50-80%.
- b) Oral contraceptive pills:
- Data received from a multicenter control of genetic screening centers indicates that the use of oral contraceptive pill is associated with 50% decreased risk for developing ovarian cancer in women who have mutation in either in BRCA -1 or BRCA - 2. However there is short term increased risk of developing breast cancer. c)

Role of screening with CA125 and transvaginal ultrasound:

- "In BRCA1- BRCA2 mutation carriers who donot wish to undergo prophylactic surgery a combination of through pelvic examination, transvaginal sonographic examination and CA125 blood testing should be done".
- Best method of prevention: Prophylactic and BSO at 35 years or as soon as family is complete.
- 2nd line: OOP's + screening
- Screening: TVS + Ca 125 started at 35 years and done every 6 or 12 months, breast screening by MRI and mamography at 30 years done annually.

780.**A. Dysgerminoma**

"Below the age of 20 years 60% of the tumors are of germ cell origin and in girls under the age of 10 years almost 85% are of germ cell origin and are invariably malignant."

"Dysgerminoma is the most common malignant germ cell tumor accounting for about 40% of all ovarian cancers of germ cell origin."

"Dysgerminomas are the most common malignant germ cell tumors of the ovary and have been considered the female- equivalent of seminoma."

Most common germ cell tumor of ovary is dermoid cyst (mature teratoma). It is benign in nature.

Remember:

- Most common malignant tumor of ovary - Serous cystadenocarcinoma.
- Most common ov. Tumour serous cyst Adenoma
- Most common germ cell tumor - Mature teratoma (Dermoid cyst). Most common malignant GCT - Immature teratoma
- Most Common benign tumor in pregnancy - Dermoid cyst.
- Overall most common ovarian tumor diagnosed in pregnancy - Dermoid cyst.
- Most common malignant ovarian tumor in pregnancy - Dysgerminoma.
- Germ cell Tumor with best prognosis - Dyserminoma
- Germ cell tumor with worst prognosis - endodermal sinus tumor
- Germ cell tumor which has maximum bilaterality - Dysgerminoma
- Germ cell tumor which presents as acute abdomen - Endodermal Sinus Tumor
- Most common ovarian tumor to undergo torsion during pregnancy - Dermoid cyst.
- Most common ovarian tumor to involve opposite ovary by metastasis - Granulosa cell tumor.
- Most radiosensitive ovarian tumor - Dysgerminoma.
- Most rapidly growing ovarian tumor - Yolk sac Tm- (Endodermal Sinus Tumor)
- Most connective tissue tumor - Fibroma.

Ovarian Tumor: Causing:

- Pseudomyxoma peritonei - Mucinous

cystadenoma/Mucinous cystadenocarcinoma

- Meig's syndrome - Ovarian fibroma
- pseudomeig's syndrome:
 - Brenner's tumor
 - Granulosa cell tumor
 - Thecoma
- Ovarian tumor associated with hyperpyrexia and hypercalcemia - Mesonephroid tumor.
- Ovarian tumor arising from epithelium of urinary tract - Brenner Tm
- Feminizing tumors:
 - Granulosa cell tumor
 - Theca cell tumor
 - Fibromas
- Virilising tumor:
 - Androblastoma
 - HiluscellTm
 - Gynadroblastoma
 - Adrenal cortical tumor
- Largest benign ovarian tumor- Mucinous cyst adenoma
- Tumor with lymphocytic infiltration:
 - Dysgerminoma.

781.

B. Associated with Ca endometrium

Granulosa cell tumor is a sex cord tumor.

- Age: It can be seen at any age. Most common before puberty and after 40 years. (Maximum incidence at 52 years). Hence option a i.e. it is common is puberty is incorrect.
- Tumor secretes estrogen which is responsible for clinical features like precocious puberty, menometrorrhagia and post menopausal bleeding.
- They are low grade malignancies.
- Almost always unilateral¹⁰ (B/L in < 2%) i.e. option d incorrect

Malignant transformation:

- Since they secrete estrogen, 25-50% are associated with Endometrial hyperplasia.
- 5 per cent of tumors are associated with endometrial cancer.

"There is a strong evidence that carcinoma of the endometrium may be associated with feminizing tumors of the ovary in postmenopausal women."

Marker: Granulosa cell tumor secrete inhibin which is a useful marker

Prognosis: Is good with 5 year survival rate being 90%.

Metastasis: It is peculiar in case of granulosa cell tumor, it first involves opposite ovary followed by metastasis in lumbar region.

782.

B. Krukenberg tumor

Krukenberg tumor

- Krukenberg tumor by definition represent carcinoma of stomach metastasised to ovary. But the eponym is commonly used to denote any gastric cancer metastatic to ovary
- Tumor arise by retrograde lymphatic spread⁹ i.e.

carcinoma cells pass from the stomach to the superior gastric lymphnode which also receive lymphatics from ovary.

Characteristics of Krukenberg Tumor:

- Always bilateral⁹
- Have smooth surface⁹
- No tendency to form adhesions
- Freely mobile
- No infiltration through the capsule.
- Histologically tumor has signet ring cells in the background of myxomatous stroma.
- They retain the shape of normal ovary.⁹
- Have waxy consistency.⁹

783.

D. Medial surface of thigh

- Ovarian pain is referred along the medial side of thigh
 - The obturator nerve during its course, when runs in front of the internal iliac vessels is separated from the normally situated ovary by only the parietal peritoneum lining the pelvic wall, thus pain from the ovary may be referred along the nerve to the skin on the medial side of thigh.
- Simpson Pain- colicky pain in patients of Ca Endometrium. It is referred to the hypogastrum or to both iliac fossas. It is not severe and tends to appear at the same time each day lasting only 1 -2 hours.

784.

D. Pericardial effusion

785.

B. Mucinous cystadenoma

Pseudomyxoma peritonei is a condition in which the neoplastic epithelium secretes large amounts of gelatinous mucinous material. It is most commonly seen secondary to:

- Appendicular carcinoma (well differentiate carcinoma).
 - Ovarian mucinous carcinoma; mucinous cystadenoma.
 - Mucocoele of appendix (less commonly seen). Even after removal of the ovarian tumors, these cells continue to secrete mucin.
- Tendency of recurrence is present.
- Prognosis is Poor.

Management: Hysterectomy with BSO with removal of mucin peritoneal implants along with appendix.

786.

D. Carcinoid Tumors of ovary

Carcinoid tumor of Ovary:

- It is sometimes primary and sometimes metastatic.
- Also called Argentaftinoma.
- Occurs as a malignant change in benign dermoid cyst.
- Presence of solid yellow tumor with histological property of reducing silver salts derived from specialized Kulchitsky cells of intestine.
- It produced 5 - HT which causes attacks of flushing and cyanosis.^Q

787.

A. Benign cystic teratoma

"A benign cystic teratoma is the most common neoplasm to undergo torsion, and it to the M/C benign tumor diagnosed during pregnancy."
A benign cystic teratoma is synonymous to dermoid cyst.

Infections — Questions

- 788.** The risk factors of acute pelvic inflammatory disease (PID) are the following except:
 A. Menstruating teenagers who have multiple sex partner
 B. IUD users
 C. Women with monogamous partner who had vasectomy
 D. Previous history of acute PID
- 789.** The following are the primary sites of acute gonococcal infection except:
 A. Urethra
 B. Bartholin's gland
 C. Skene's gland (Paraurethral glands)
 D. Ectocervix
- 790.** Ulceration of the vulva is commonly seen in all except :
 A. Bacterial vaginosis B. Syphilis
 C. Chancroid D. Behcet's Disease
- 791.** Regarding bacterial vaginosis, all are true except:
 A. Homogeneous vaginal discharge with pH 5.0 to 6.0
 B. Positive KOH- with fishy odour
 C. Positive clue cells in 100% of cases
 D. It is due to Gardnerella vaginalis
- 792.** Theoretically, Gonococcal vaginitis can be seen:
 A. In puberty
 B. In newborn females
 C. In reproductive age females
 D. Sex workers
- 793.** Regarding bacterial vaginosis, all are true except:
 A. Homogeneous vaginal discharge with pH 5.0 to 6.0
 B. Positive KOH - With fishy odour
 C. Positive clue cells in 100% of cases
 D. It is due to Gardnerella vaginalis
- 794.** The risk factors of acute pelvic inflammatory disease (PID) are the following except:
 A. Menstruating teenagers who have multiple sex partners
 B. IUD users
 C. Women with monogamous partner who had vasectomy
 D. Previous history of acute PID
- 795.** M/c organism causing PID in postmenopausal females:
 A. Chlamydia E. coli
 B. Klebsiella C. Staphylococcus
- 796.** HSG findings in tubercular salpingitis are all except:
 A. Tobacco pouch appearance
 B. Powder burn appearance
 C. Lead pipe appearance
 D. Golf stick appearance
- 797.** Extensive endometrial TB presents with:
 A. Menorrhagia B. Amenorrhea
 C. Polymenorrhea D. Metrorrhagia
- 798.** A P3 woman complains of an offensive fishy smelling yellowish discharge without pruritus. Her previous pregnancy ended in preterm delivery. Best way to confirm the diagnosis is:
 A. Culture of discharge
 B. Microscopic examination of wet mount
 C. Test vaginal pH
 D. Do a NAAT

788. c	789. d	790. a	791. c	792. b	793. c	794. b	795. b	796. b	797. b	798. b
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Infections — Explanations

788. **C. Women with monogamous partner who had vasectomy**

Risk Factors For Pid Are:

- The PID is a disease of young women, who are sexually and reproductively active. The increased promiscuity and frequent change of sex partners are mainly responsible
- Septic abortions and puerperal sepsis are the important aetiological factors
- The introduction of IUCDs has increased the incidence of PID threefold
- Tuberculosis is blood borne in most cases and rarely ascending in nature.
- pelvic peritonitis due to appendicitis, and diverticulitis may spread to involve the fallopian tube of that side.
- Previous history of PID ; women with one previous attack of PID are predisposed to another attack in 12% of the cases two attacks of PID increase the risk to 35% and three attacks to as much as 75%.

789. **D. Ectocervix**

Site of gonococcal infection are :

- Columnar epithelium of genital tract
- Transitional epithelium of urethra and surrounding structure
- Bartholins gland

790. **A. Bacterial vaginosis**

Ulceration of vulva is commonly seen in :

- Primary disease
- Fungal infection, streptococcal infection, syphilis, TB.
 - Presenting as ulcer - Chancroid, Behcet disease, traumatic ulcer, amoebiasis, lymphogranuloma venereum, granuloma inguinale.
 - Dermatitis in Lichen sclerosus, lichen planus, Crohn's disease, allergy to drugs.
 - Viral infection n- Herpes simplex, immunological.
 - Vulvar intraepithelial neoplasia (VIN), Paget's disease, malignant ulcer.

791. **C. Positive clue cells in 100% of cases**

Bacterial vaginosis :

1. Causative agent is gardarella vaginalis
2. Symptoms—Pruritus, burningMalodorous discharge and dyspareunia
3. Increase in vaginal pH (alkacid papers).
4. KOH treated preparation of vaginal discharge— This reveals presence of pseudomycelia and spores of candidal organisms.
5. Whiff test—The fishy odour is suggestive of the presence of bacterial vaginosis.

6. Gram's stain—This may reveal presence of gram negative intracellular and extracellular diplococci suggestive of gonococci, Clue cells suggestive of bacterial vaginosis, but not present in 100% cases

7. Clinical Findings: These include n Vulvar erythema and oedema n Copious frothy yellowish-green foul smelling discharge n Punctate lesions of cervix (strawberry cervix) n Vaginal pH .4.5

8. Treatment:Oral Metronidazole—500 mg orally twice daily after meals for 7 days. Or 2 g stat.

792 **B. In newborn females**

Squamous epithelium is resistant to Gonococcal infection, since in all adult females, vagina is lined by stratified squamous epithelium. Hence, gonococcal vaginitis does not occur.

In newborn females, vagina is lined by transitional epithelium. Therefore, theoretically speaking, gonococcal vaginitis can occur in newborn females.

793. **C. Positive clue cells in 100% cases**

Clue cells are diagnostic but about 40% patients may not have clue cells.

794. **C. Women with monogamous partner who had vasectomy**

Risk factors of PID

- Menstruating teenagers.
- Multiple sexual partners
- Absence of contraceptive pill use.
- Previous history of acute PID.
- IUD users.
- Area with high prevalence of sexually transmitted diseases

795. **B. E. coli**

796. **B. Powder burn appearance**

Powder burn appearance is seen in endometriosis and not genital TB.

797. **B. Amenorrhea**

Extensive TB presents with amenorrhea due to Asherman syndrome.

798. **B. microscopic examination of a wet mount of vaginal discharge.**

The patient is having Bacterial vaginosis as she presents with offensive, fishy smelling yellowish discharge, without pruritus. Her previous pregnancy had ended in a preterm delivery.

The IOC in Bacterial vaginosis is microscopic examination of the discharge mixed with saline. Clue cells will be visible.

Contraception — Questions

799. Which natural family planning method is based on ogino knauss theory:

- a. RBT method
- b. Rhythm method
- c. Lactational anorrhea
- d. Withdrawl method

800. Which of the following statements about calendar method (Rhythm method) is false:

- a. Abstinence is needed for only a few days in a month
- b. It is associated with no costs
- c. Safe period can also be observed using temperature rhythm or mucous method
- d. Ectopic pregnancy is a reported complication of calendar method

801. Billing's method of contraception refers to;

- a. Monitoring BBT
- b. Cervical mucus method
- c. Rhythm method
- d. Coitus interruptus method

802. Spermicidal jelly acts through;

- a. Acrosomal enzyme
- b. Cervical enzyme alteration
- c. Glucose uptake inhibition by sperms
- d. Disruption of cell membrane

803. Minimum effective dose of ethinyl estradiol in combination oral pills is:

- a. 20 mcg
- b. 35 mcg
- c. 50 mcg
- d. 75 mcg

804. Third generation oral contraceptive pills containing norgestimate and gestodene along with estrogens:

- a. Are more lipid friendly
- b. Decreases the risk of venous thromboembolism
- c. Increase the risk of breakthrough bleeding
- d. Are not used for emergency contraception

805. The progesterone component of OCP acts by:

- a. Preventing ovulation
- b. Inhibiting implantation
- c. Bringing about alterations in cervical mucus
- d. All of the above

806. Amount of estrogen in Mala D is:

- a. 30 mcg
- b. 50 mcg
- c. 10 mcg
- d. 80 mcg

807. Oral contraceptive pills decrease incidence of all of the following conditions except:

- a. Salpingitis
- b. Hepatic adenoma
- c. Ovary CA
- d. Fibroadenosis

808. Use of OCP's are known to protect against following malignancies except:

- a. Ovarian carcinoma
- b. Endometrial carcinoma

- c. Uterine sarcoma
- d. Carcinoma cervix

809. Use of oral contraceptive decreased the incidence of all of the following except:

- a. Ectopic pregnancy
- b. Epithelial ovarian malignancy
- c. Hepatic adenoma
- d. Pelvic inflammatory disease

810. Non contraceptive use of OCPs are all except:

- a. Ca endometrium
- b. Ca breast
- c. Rheumatoid arthritis
- d. Endometriosis

811. OCP's cause all except:

- a. Dysmenorrhea
- b. Mastalgia
- c. Nausea
- d. Chloasma

812. In a young female of reproductive age an absolute contraindication for prescribing OCP's is:

- a. Diabetes
- b. Hypertension
- c. Obesity
- d. Impaired liver function

813. OCPs are contraindicated in all except:

- a. Smoking 35 years
- b. Coronary occlusion
- c. Polycystic ovarian disease
- d. Cerebrovascular disease

814. DMPA-True : (PGI type)

- a. Failure @ 0.3/100 WY
- b. 150 mg/3 monthly delivered
- c. Weight gain
- d. Glucose intolerance occur
- e. Anemia improves

815. In a woman on subdermal progesterone implant, the menstrual abnormality seen is:

- a. Menorrhagia
- b. Metrorrhagia
- c. Polymenorrhea
- d. Amenorrhea

816. Use of Levo-Norgestrel releasing, IUCD is helpful in all of the following conditions except:

- a. Menorrhagia
- b. Dysmenorrhea
- c. Premenstrual symptoms
- d. Pelvic inflammatory disease

817. True about Mirena : (PGI)

- a. Progesterone containing IUCD
- b. Contain desogestrol
- c. Causes endometrial hyperplasia
- d. Decreases menstrual blood flow

799. b	800. d	801. b	802. d	803. a	804. a	805. d	806. a	807. b	808. d	809. c
810. b	811. a	812. d	813. c	814 a,b,c,e		815. b	816. c	817. a,d		

818. Which of the following statements is incorrect regarding levonorgestrel releasing intrauterine contraceptive devices:

- a. There is increased incidence of menorrhagia
- b. This system can be used as hormone replacement therapy
- c. This method is useful for the treatment of endometrial hyperplasia
- d. Irregular uterine bleeding can be a problem initially

819. All of the following mechanisms might account for a reduce-risk of upper genital tract infection in users of progestin-releasing IUDs, except:

- a. Reduced retrograde menstruation
- b. Decreased ovulation
- c. Thickened cervical mucus
- d. Decidual changes in the endometrium

820. Contraceptive LNG-IUD (levonorgestrel intra-uterine device) has the cumulative pregnancy rate at 5 years of:

- a. 0.5
- b. 1.0
- c. 1.5
- d. 2.0

821. Mechanism by which IUCD does not act;

- a. Chronic endometrial inflammation
- b. Increase the motility of tubes
- c. Inducing endometrial atrophy
- d. Inhibition of ovulation

822. Among of following IUCD's which has life span for 10 years :

- a. CuT380A
- b. CuT200
- c. Nova T
- d. Multiload

823. A lady with IUCD becomes pregnant with tail of IUCD being seen, next course of action is :

- a. MTP
- b. Remove the IUCD
- c. Continue the pregnancy
- d. Remove IUCD and terminate pregnancy

824. An intrauterine pregnancy of approximately 10 weeks gestation is confirmed in a 30 year old, gravid 5, para 4 woman with an IUD in place. The patient expresses a strong desire for the pregnancy to be continued. On examination, the string of the IUD is noted to be protruding from the cervical os. The most appropriate course of action is to :

- a. Leave the IUD in place without any other treatment
- b. Remove the IUD to decrease the risk of malformations
- c. Remove the IUD to decrease the risk of infection
- d. Terminate the pregnancy because of the high risk of malformations

825. Absolute contraindication for IUCD includes all of the following except:

- a. Undiagnosed vaginal bleeding

- b. Suspected pregnancy
- c. Congenital malformation of uterus
- d. PID

826. The most common complication of IUCD is :

- a. Ectopic pregnancy
- b. Bleeding
- c. Backache
- d. Cervical stenosis

827. Emergency contraception prevents pregnancy by all of the following mechanisms, except :

- a. Delaying/inhibiting ovulation
- b. Inhibiting fertilization
- c. Preventing implantation of the fertilized egg
- d. Interrupting an early pregnancy

828. Drugs used in emergency contraception are all except : (PGI)

- a. Levonorgestrel
- b. Estrogen + progesterone
- c. Danazol
- d. Mifepristone
- e. Misoprostol

829. Which is not an emergency contraceptive: (PGI)

- a. Combined oral pills
- b. Estrogen
- c. Desogestrel
- d. Levonorgestrel
- e. Medoxy progesterone acetate

830. Emergency contraceptive are effective if administered within following period after unprotected intercourse;

- a. 24 hours
- b. 48 hours
- c. 72 hours
- d. 120 hours

831. Which of the following is not an abdominal technique for tubal ligation?

- a. Pomeroy
- b. Parkland
- c. Essure
- d. Irving

832. Method of sterilization which is least effective is:

- a. Pomeroy's technique
- b. Laparoscopy
- c. Vaginal fimbriectomy
- d. Hysteroscopic tubal occlusion

833. Sterilization procedure with maximum chances of reversal is:

- a. Pomeroy's tubal ligation
- b. Irving's technique
- c. Laparoscopic tubal ligation with silastic bands
- d. Laparoscopic tubal ligation with clips

834. During Pomeroy's method of female sterilization, which portion of the tube is ligated?

- a. Isthmus
- b. Ampullary
- c. Isthmus- Ampullary
- d. Cornua

818. a	819. b	820. a	821. d	822. a	823. b	824. c	825. c	826. b	827. d	828. c,e
829. b,c,e	830. d	831. c	832. c	833. d	834. a					

835. Sterilization is commonly performed at which site of fallopian tube:
 a. Ampulla
 b. Infundibulum
 c. Isthmus
 d. Cornua
836. All of the following are features of post-tubal ligation syndrome except :
 a. Abnormal menstrual bleeding
 b. Dysmenorrhea
 c. Pelvic pain
 d. Dysperunia
837. Failure rate of vasectomy is:
 a. 0.2%
 b. 1%
 c. 3%
 d. 10%
838. Which one of the following is the ideal contraceptive for a patient with heart disease:
 a. IUCD
 b. Depoprovera
 c. Diaphragm
 d. Oral contraceptive pills
839. PID occurs least common with;
 a. OCPs
 b. Condoms
 c. IUCD
 d. Diaphragm
840. Ideal contraceptive for newly married couple is:
 a. Barrier method
 b. Combined OCP
 c. IUCD
 d. Progesterone only pill
841. Ideal contraceptive for a couple living in different cities meeting only occasionally :
 a. Barrier method
 b. IUCD
 c. OCP
 d. DMPA
842. Ideal contraceptive for lactating mother is:
 a. Barrier method
 b. Combined OCP
 c. Lactational amenorrhoea
 d. Progesterone only pill
843. Peritoneum is opened in all of the following sterilization procedures except :
 a. Mini lap
 b. Laparoscopy
 c. Vasectomy
 d. Transvaginal tubectomy
844. SERM used for contraception :
 A. Raloxifene
 B. Ormeloxifene
 C. Clomifene
 D. Toremifene
845. Billings method of contraception is a ____
 A. Hormonal method
 B. Barrier method
 C. Behavioral method
 D. LARC method
846. Contraception with least failure rate:
 A. Mirena
 B. Implanon
 C. OCP
 D. DMPA
847. Which of the following is the noncontraceptive benefit of OCP'S?
 A. Decreases incidence of Breast CA
 B. Decreases incidence of lung CA
 C. Decreases incidence of colorectal CA
 D. Decreases incidence of Gallbladder CA
848. Contraindication to the use of OCP'S are all except:
 A. Breast CA
 B. Kidney disease
 C. Smoking
 D. Liver disease
849. What is the release rate of etonogestrel from NUPVA Ring?
 A. 15 mcg/d
 B. 50 mcg/d
 C. 8 mcg/d
 D. 120 mcg/d
850. All of the following are LARC methods except:
 A. IUCD
 B. DMPA
 C. POPs
 D. Implanon
851. Women who had an IUCD inserted 1 year ago attends the clinic for a routine checkup. On vaginal examination the threads of the IUCD are not found. Attempts to retrieve threads using a cervical cytology brush failed.
 What is the next step in the management?
 A. Dilate the cervix and explore the uterus under general anaesthesia
 B. Perform a CT scan
 C. Perform a transvaginal ultrasound scan
 D. Perform an X-ray of the pelvis
852. Method used for laparoscopic sterilization include the following except:
 A. Fallopie ring
 B. Irving
 C. Filshie clip
 D. Electrocoagulation
853. The intra-abdominal pressure during laparoscopy should be set between:
 A. 5-8 mm Hg
 B. 10-15 mm Hg
 C. 20-25 mm Hg
 D. 30-35 mm Hg
854. The following are true related with regards to vasectomy except:
 A. Leads to immediate sterility
 B. Failure rate is 0.1%
 C. Involves ligation and division of spermatic cord
 D. Partner (wife) may be given DMPA for 3 months

835. c	836. d	837. a	838. a	839. b	840. b	841. a	842. d	843. c	844. b	845. c
846. b	847. c	848. b	849. d	850. c	851. c	852. b	853. b	854. a		



855. A popular method of performing sterilization, regarding this technique true statements is:



- ☒ A. Is performed with absorbable suture material
- ☒ B. Is performed using permanent suture
- ☐ C. Includes crushing the fallopian tube
- ☐ D. Is irreversible

856. A couple is advised to use barrier methods after vasectomy till :

- ☒ a. 3 months
- ☐ b. No sperms in ejaculate
- ☐ c. Next 15 ejaculations
- ☐ d. None of the above

857. Third generation oral contraceptive pills containing norgestimate and gestodene along with estrogens:

- ☒ A. Are more lipid friendly
- ☐ B. Decreases the risk of venous thromboembolism
- ☐ C. Increase the risk of breakthrough bleeding
- ☐ D. Are not used for emergency contraception

Contraception — Explanations

799. B. Rhythm method

In Knaus-Ogino method or calendar method or rhythm method - the fertile period is determined by subtracting 18 days from the shortest cycle and 10 days from the longest cycle which gives the first and the last day of fertile period, respectively.

800. D. Ectopic pregnancy is a reported complication of calendar method

In calendar method or rhythm method - the fertile period is determined by subtracting 18 days from the shortest cycle and 10 days from the longest cycle which gives the first and the last day of fertile period, respectively.

- The failure results from irregular ovulation or from irregular menstrual cycles.
- Safe period can also be observed using temperature changes
- The properties of the cervical mucus also change under the influence of the ovarian hormones on different days of the menstrual cycle hence can predict ovulation
- Ectopic pregnancy is not associated with natural methods of contraception

801. B. Cervical mucus method

mucus method (billings or ovulation method). The properties of the cervical mucus change under the influence of the ovarian hormones on different days of the menstrual cycle. The woman attempts to predict the fertile period by feeling the cervical mucus.

- Under oestrogen influence, the mucus increases in quantity and becomes progressively more slippery and elastic until a peak is reached.
- Thereafter, the mucus becomes thicker, scanty and dry under the influence of progesterone until the onset of menses. Intercourse is considered safe during the 'dry days' immediately after the menses until mucus is detected.

802. D. Disruption of cell membrane

The spermicidal agents kill the sperms by disruption of cell membrane before the latter gain access to the cervical canal. These chemical contraceptive agents contain surfactants, such as (nonoxynol-9, octoxynol and menfegol and enzyme-inhibiting agents, and are available as foam tablets, soluble pessaries, creams, jellies, or as films

803. A. 20 mcg

Combined oral pills contain a mixture of ethinyloestradiol (EE2) in a dose of 20–30 mcg and an orally active progestogen. Mala-D contains 0.5 mg of d-norgestrel and Mala-N contains 1 mg norethisterone; these are available free of cost in India. The tablets are taken starting on the second day of the cycle for 21 days (now started on 1st day)

804. A. Are more lipid friendly

Different generations of oral pills:

- First generation contained norethindrone.

- Second generation contained LNG.
- Third generation contained gestodene, desogestrel, norgestimate.
- Fourth generation contains spironolactone and cyproterone acetate.
- Janya contains 24 tablets, each containing 20 mcg EE2 and 3 mcg drospirenone.
- Yasmin contains 30 mcg EE2 3 mg drospirenon.
- DIAN-35 contains cyproterone acetate

805. D. All of the above

The combined oral pill suppresses pituitary hormones, FSH and LH peak and through their suppression prevents ovulation.

At the same time, progestogen causes

- Atrophic changes in the endometrium and prevents nidation.
- Progestogen also acts on the cervical mucus making it thick and tenacious and impenetrable by sperms.
- It also increases the tubal motility, so the fertilized egg reaches the uterine cavity before the endometrium is receptive for implantation.

806. A. 30 mcg

Combined oral pills contain a mixture of ethinyloestradiol (EE2) in a dose of 20–30 mcg and an orally active progestogen. Mala-D contains 0.5 mg of d-norgestrel and Mala-N contains 1 mg norethisterone; these are available free of cost in India. The tablets are taken starting on the 1st day of the cycle for 21 days (now started on 1st day)

807. B. Hepatic adenoma

- OC pills are contraindicated in hepatic adenomas, Liver Adenomas have been reported and though they are benign, rupture of a hepatoma can be fatal. Because the hormones are metabolized in the liver, chronic liver diseases and recent jaundice contraindicate the use of pills.
- It reduces the incidence of functional ovarian cyst (50%) and ovarian and uterine malignancy. The incidence of ovarian cancer is reduced by 40% and uterine malignancy by 50% if taken for 1 year, and this effect lasts as long as 10 years after stoppage. The risk decreases with duration of its use.
- The incidence of PID is reduced, though it does not reach the same low level as seen with the barrier method. This effect is due to the thick cervical mucus caused by progestogen, preventing the organisms entering into the uterine cavity.
- It has proved to lower the incidence of benign breast disease such as fibrocystic disease.
- Hence answer here is option B

808. D. Carcinoma cervix

OC pills reduces the incidence of functional ovarian cyst (50%) and ovarian and uterine malignancy. The incidence of ovarian cancer is reduced by 40% and

uterine malignancy by 50% if taken for 1 year, and this effect lasts as long as 10 years after stoppage. The risk decreases with duration of its use. It also reduces incidence of endometriosis and endometrial carcinoma

C. Hepatic adenoma

809.

B. Ca breast

810.

NON CONTRACEPTIVE use of OCP are:

1. As it causes regular and scanty menstruation, it is useful in menorrhagia and polymenorrhoea
2. It can relieve dysmenorrhoea and premenstrual tension
3. It prevents anaemia by reducing the menstrual loss.
4. It has proved to lower the incidence of benign breast neoplasia such as fibrocystic disease.
5. It reduces the incidence of functional ovarian cyst (50%) and ovarian and uterine malignancy.
6. The incidence of PID is reduced,
7. Reduced incidence of ectopic pregnancy is due to suppression of ovulation and reduction in PID.
8. It protects against rheumatoid arthritis.
9. Reduces the risk of anorectal cancer by 30–40%.
It is useful in acne, PCOD and endometriosis

811.

A. Dysmenorrhea

Ocpills relieve dysmenorrhoea by causing anovulation, rest all other options are side effects of oc pills

812.

D. Impaired liver function

Pills are therefore contraindicated in:

- Cardiac disease, hypertension, smoker over 35 years.
- Diabetes.
- History of thrombosis, myocardial infarct, sickle cell anaemia, severe migraine.
- Chronic liver diseases such as cholestatic jaundice of pregnancy, cirrhosis of liver, adenoma, porphyrias.
- Breast cancer, gall bladder disease. n Gross obesity.
- Patient on enzyme-inducing drugs like rifampicin, and antiepileptic except sodium valproate.
- 4–6 weeks prior to planned surgery.
- Lactating woman.
- Monilial vaginitis.

813.

C. Polycystic ovarian disease

814.

A. Failure @ 0.3/100 WY, B. 150 mg/3 monthly delivered, C. Weight gain, E. Anemia improves

- (DMPA)DEPOT MEDROXY PROGESTERONE ACETATE is given in microcrystalline aqueous suspension and norethisterone enanthate (NETO) in castor oil solution, both by deep intramuscular injection (not subcutaneous).
- A monthly injection of DMPA 25–50 mg, combined with 5 mg oestradiol is considered to be effective. Other preparations in use are the DMPA 150 mg 3-monthly, DMPA 300 mg 6-monthly
- Pregnancy rate is 0.4 per 100 woman years for DMPA

- The side effects of weight gain, depression, bloated feeling and mastalgia can occur with injectable progestogen.

815.

B. Metrorrhagia

Progestosterone causes secretory changes in endometrium and on its withdrawal, there occurs bleeding due to shedding of endometrium
With implants - Breakthrough bleeding, irregular cycles, occur as with other progestogenic contraceptives

816.

C. Premenstrual symptoms

Uses of IUCD

- As a contraceptive
- Postcoital contraception (emergency contraception)
- Following excision of uterine septum, Asherman syndrome
- Hormonal IUCD (Mirena/LNG) in menorrhagia and dysmenorrhoea, and hormonal replacement therapy in menopausal women
- In a woman on tamoxifen for breast cancer, MIRENA can be used to counteract endometrial hyperplasia

817.

A. Progesterone containing IUCD, D. Decreases menstrual blood flow

Mirena IUCD.-

- It is 32 mm IUCD with the vertical rod containing 52 mg LNG progestogen in a silastic reservoir in its vertical arm: 20 mcg hormone is eluted in 15 min after its insertion, and the peak level reaches in a few hours
- It does not suppress ovulation, and its effect is mainly on the endometrium and cervical mucus. Because of this, Mirena is also used in abnormal uterine bleeding (AUB), endometrial hyperplasia
- The pregnancy rate is 0.5 per 100 woman years (equal to that of tubectomy).
- Mirena is an effective contraceptive, reversible and reduces dysmenorrhoea and menorrhagia



818.

A. There is increased incidence of menorrhagia Progesterone-carrying device causes

- Alteration in the cervical mucus which prevents penetration of sperm, in addition to its local



action. It also causes endometrial atrophy (hence given in patients of endometrial hyperplasia)

- It prevents ovulation in about 40%.

- It can be used as hormonal replacement therapy.
- Due to presence of progesterone component, it prevents menorrhagia and dysmenorrhoea
- Hormonal IUCD may cause disturbance in normal menstrual cycle and may result in irregular uterine bleeding

819. B. Decreased ovulation

Mechanism of action of progesterone releasing IUDs

- Progesterone-carrying device causes alteration in the cervical mucus which prevents penetration of sperm, in addition to its local action.
- It also causes endometrial atrophy.
- It prevents ovulation in about 40%.
- The hormone does not get absorbed into the general circulation (or minimal amount) so the side effects of systemic administrations are not seen.
- It does not suppress ovulation, and its effect is mainly on the endometrium and cervical mucus. Because of this, Mirena is also used in abnormal uterine bleeding (AUB), endometrial hyperplasia,

820. A. 0.5

The failure rate of LNG containing IUD is less than 1%. While that of normal IUCD is 1-3 per 100 women years

821. D. Inhibition of ovulation

Several mechanisms are responsible for the contraceptive effect of an IUCD.

- The presence of a foreign body in the uterine cavity renders the migration of spermatozoa difficult. A foreign body within the uterus provokes uterine contractility through prostaglandin release and increases the tubal peristalsis so that the fertilized egg is propelled down the fallopian tube more rapidly than in normal and it reaches the uterine cavity before the development of chorionic villi and thus is unable to implant.
- The device in situ causes leucocytic infiltration in the endometrium. The macrophages engulf the fertilized egg if it enters the endometrial tissue.
- Copper T elutes copper which brings about certain enzymatic and metabolic changes in the endometrial tissue which are inimical to the implantation of the fertilized ovum.
- Progesterone-carrying device causes alteration in the cervical mucus which prevents penetration of sperm, in addition to its local action. It also causes endometrial atrophy. It prevents ovulation in about 40%

Hence answer here is option D

822. A. CuT380A

Life span of:

- CuT 380A – 10 years
- CuT 200 – 1-2 years
- Nova T – 1-2 years

- Multiloaded- 3-5 years
- Mirena – 5 years
- LNG- 5 years

823. B. Remove the IUCD

Pregnancy occurs with IUCD in situ in 1-3 per 100 woman years. If this happens, it is important to do ultrasound and rule out ectopic pregnancy. The uterine pregnancy can cause severe infection.

- It is therefore mandatory to remove the IUCD if the tail is visible through the os. While doing so, the risk of abortion should be explained to the woman.
- If the thread of the IUCD is not seen, termination of pregnancy is offered, not because IUCD has any teratogenic effect but because the risk of uterine infection is considerable. Alternatively, the pregnancy is continued after counselling and explaining the risk.

824. C. Remove the IUD to decrease the risk of malformations

825. C. Congenital malformation of uterus

Contraindications

- Suspected pregnancy
- Pelvic inflammatory disease (PID),
- lower genital tract infection
- Presence of fibroids—because of misfit in Menorrhagia and dysmenorrhoea, if Copper T is used
- Severe anaemia
- Diabetic women who are not well controlled—because of slight increase in pelvic infection
- Heart disease—risk of infection
- Previous ectopic pregnancy
- Scarred uterus

826. B. Bleeding

The complications of an IUCD are:

- Immediate
 - Difficulty in insertion
 - Vasovagal attack
 - Uterine cramps
 - Early n Expulsion (2-5%)
 - Perforation (1-2%)
 - Spotting, menorrhagia (2-10%)
 - Dysmenorrhoea (2-10%)
 - Vaginal infection
 - Actinomycosis
 - Late
 - PID—2-5%. IUCD does not prevent transmission of HIV
 - Pregnancy—1-3 per 100 woman years (failure rate)
 - Ectopic pregnancy
 - Perforation n
 - Menorrhagia and Dysmenorrhoea
- Most common complication are:- bleeding
Most common reason for removal -pain

D. Interrupting an early pregnancy

Emergency contraception acts by :

1. The hormones may delay ovulation if taken soon after intercourse; it also prevents fertilization
2. It cause corpus luteolysis,
3. it bring about cervical mucus changes and endometrial atrophy hence prevent implantation of fertilised egg

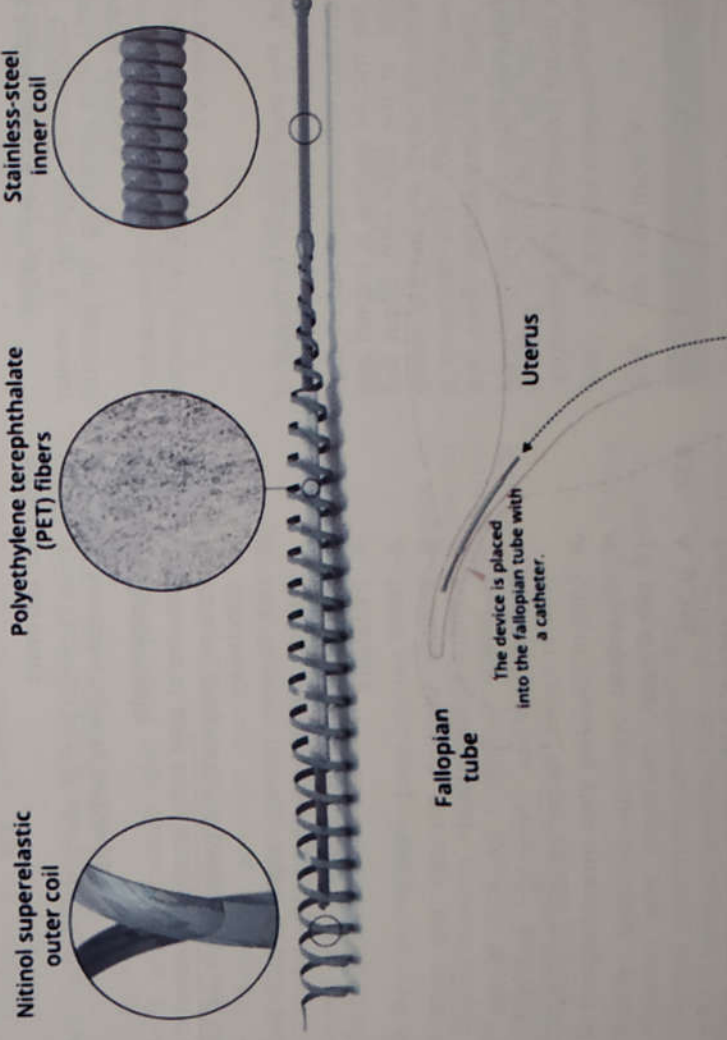
C. Danazol, E. Misoprostol

Drugs used for emergency contraception are :

- Levonorgestrel (LNG). Prostinar tablet contains 0.75 mg LNG. One tablet should be taken within 72 h of unprotected intercourse and another 12 h later.
- RU 48 (Mifepristone) is a steroid with an affinity for progesterone receptors. It does not prevent fertilization but by blocking the action of progesterone on the endometrium

827. C. Essure

Essure - The latest technique of 'Essure permanent device' is a dynamically expanding micro-insert consisting of a flexible inner coil made of stainless steel and a dynamic outer coil made of nickel titanium alloy (nitinol). The device is 4 cm long with inner 0.8 mm diameter. Running along and through the inner coil is a layer of polyethylene terephthalate (PET) fibres, which initiate a benign local fibrous tissue growth responsible for the occlusion of the fallopian tube



Rest all other options are type of abdominal laparoscopic technique for tubal ligation

832.

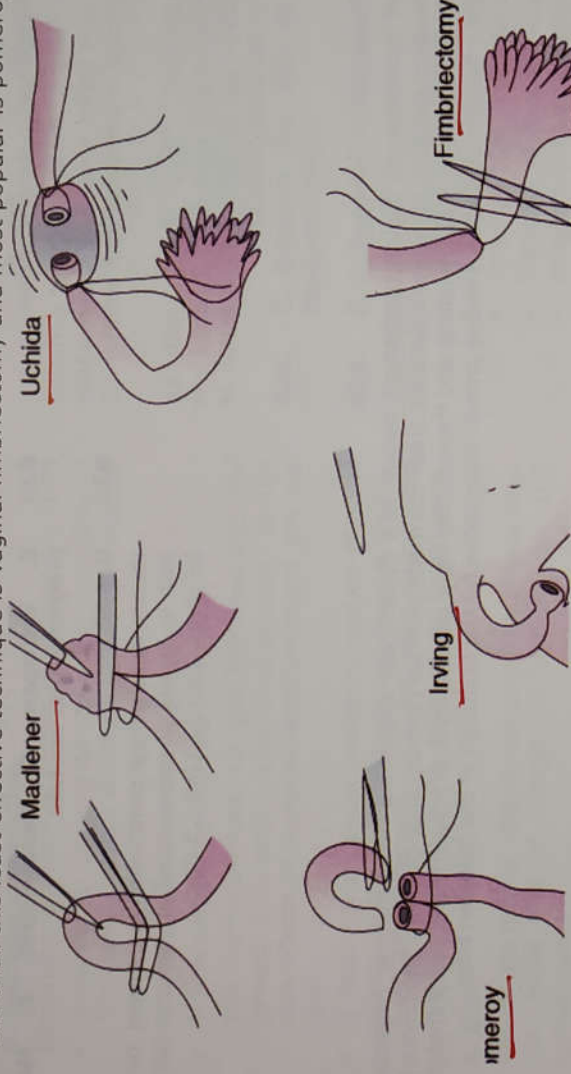
C. Vaginal fimbriectomy

fimbriectomy. Excision of fimbria results in permanent sterilization and leaves no potential for reversibility. Pomeroy's technique - The most popular technique of tubal ligation is the Pomeroy operation. The fallopian tube is identified on each side, brought out through the incision, and the middle portion is formed into a loop which is tied at the base with catgut and excised.

Laparoscopy - laparoscopically fallopian tube is clipped / banded using (silastic bands) (Filshie, Hulka band, silastic ring) or divided after cauterization of a segment of the tube with a bipolar cautery.

Hysteroscopic Sterilization. This technique of using sclerosing agents and quinacrine has been abandoned because of high failure rate, and other complications of uterine perforation, burn injury and infection.

Out of all this least effective technique is vaginal fimbriectomy and most popular is Pomeroy's technique



833.

D. Laparoscopic tubal ligation with clips

The Hulka and Filshie clips destroy a smaller segment (3-4 mm), thus preserving the potential for successful reversal surgery.

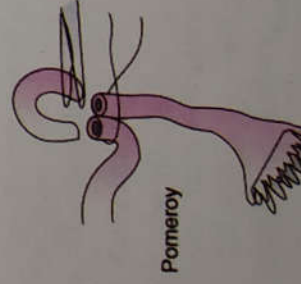
Overall least effective method - clips > bipolar cautery

Overall most effective - unipolar cautery > uchida > Irving > modified Pomeroy's

834.

A. Isthmus

Pomeroy method. The most popular technique of tubal ligation is the Pomeroy operation. The fallopian tube is identified on each side, brought out through the incision, and the middle portion is formed into a loop which is tied at the base with catgut and excised. The failure rate is only 0.4% and it is mainly due to spontaneous canalization. The operation is simple, requires short hospitalization, does not require sophisticated and expensive equipment like a laparoscope, and can be performed in primary health centre by a doctor trained in this procedure. It is surgically reversible.



835.

C. Isthmus

Most common part at which sterilization is performed in fallopian tube is **isthmus**

836.

D. Dysperunia

Symptoms of post tubal ligation syndrome are :

1. ~~Epitopic pregnancy or pregnancy (well known risk of tubals)~~
2. Hot flashes, flushes, night sweats and/or cold flashes, clammy feeling, chills
3. Bouts of rapid heart beat
4. Irritability
5. Mood swings, sudden tears
6. Trouble sleeping through the night (with or without night sweats)
7. Irregular periods; shorter, lighter periods; heavier periods, flooding; phantom periods, shorter cycles, longer cycles, dysmenorrhea
8. Loss of libido
9. dry vagina
10. pelvic pain

837.

A. 0.2%

Failure rate of 0.15/100 woman years at the end of 1 year

838.

A. IUCD

The risk of pregnancy should be weighed against the risk of any contraception in a woman with medical disorder. While prescribing a family planning

method, due consideration and counselling related to side effects is necessary. If the risk is negligible, sterilization provides the permanent method to prevent a pregnancy. Vasectomy would be ideal, with no risk to the woman.

Barrier contraceptives are contraception of choice and among barrier contraceptives best is IUCD. COC is contraindicated in a hypertensive, cardiac and diabetic women, as well as a woman with breast cancer, liver disease and previous thromboembolism.

B. Condoms

PID is commonly seen with IUCD. Barrier methods prevent STD. Oral contraceptives, especially minipills, are also effective. IUCD causes PID in 5%, but is popular in India and any reduction in its use would severely compromise the national family planning programme. To avoid PID, it is necessary to see that only trained personnel introduce the device under aseptic conditions. Vaginal infection should be treated prior to insertion of the device.

Female condom known as Femshield has been recently devised, which covers the cervix, entire vagina and the external genitalia, and is highly effective not only as a barrier method, but is also protective against AIDS and STD.

B. Combined OCP

The combined oral pill

- Suppresses pituitary hormones, FSH and LH peak and through their suppression prevents ovulation.
- At the same time, progesterone causes atrophic changes in the endometrium and prevents nidation.
- Progesterone also acts on the cervical mucus making it thick and tenacious and impenetrable by sperms.
- It also increases the tubal motility, so the fertilized egg reaches the uterine cavity before the endometrium is receptive for implantation.
- Pregnancy rate with combined oral pill is 0.1 per 100 woman years, which is the lowest of all contraceptives in use today.

Hence due to above reasons pc pills are considered contraceptive of choice in newly married female

A. Barrier method

Barrier methods are contraception of choice in couples meeting occasionally. It is the best method in young girls. Apart from providing contraceptive method, it can prevent transmission of infections from one partner to the other.

D. Progesterone only pill

Regular lactation with one feed at night delays ovulation and pregnancy for up to 6 months, provided she remains amenorrhoeic. After 6 months, lactation has no bearing on ovulation and pregnancy can occur, despite amenorrhoea. Thereafter, the woman needs some form of contraceptive precaution. POP does not suppress lactation or alter the quantity and quality of milk. It can be started after 6 weeks of delivery, while on other hand oc pills are contraindicated in lactating mothers because:

- It reduces the quality and quantity of milk.
- Hormone secreted in the milk may be harmful to the infant.
- There is increased risk of thromboembolism

C. Vasectomy

- Vasectomy consists of dividing the vas deferens and disrupting the passage of sperms. It is done through a small incision in the scrotum, under local anaesthesia. While all three peritoneum is opened.

B. Ormeloxifene

Ormeloxifene is the active ingredient of centchroman or sahel.

C. Behavioral methods

Behavioral methods

- Safe period method ✓
- Billings method/cervical mucus study ✓
- Basal body temperature method ✓
- Symptothermic method ✓

Hormonal methods

- Pills
 - OCP'S
 - POP'S
- Injectables
- Implants
- Progesterone IUCD
- Transdermal patch
- Nuva Ring

LARC: Longacting reversible contraceptives

- IUCD'S
 - Cu containing
 - Progesterone
- Injectables
 - DMPA
 - Net En
- Nuva Ring
 - Ortho evra transdermal patch
- Implants Implanon / Nexplanon

846. B. Implanon

Implanon have the highest efficacy amongst all contraceptive methods

Failure Rate = .01%

847. C. it decreases the risk of colorectal cancer

Cancers and OCP's

848. B. Kidney disease

849. D. 120 mcg/d

Nuva Ring	Ortho Evra
Progestogen: Etonogestrel ✓	Norelgestromin ✓
Release per day = 120 mcg	150 mcg
Estrogen = Ethinyl estradiol ✓	Ethinyl estradiol ✓
Release per day = 15 mcg	20 mcg



Failure Rate	
Typical use 8%	8%
Perfect use 0.3%	0.3

850. C. POPS

LARC method of contraception are Long acting Reversible contraceptive methods:

LARC methods include:

- Injections: DMPA/NET-en
- Implants-Implanon, Norplant, Nexplanon
- IUCD's: CuT, LNG IUCD.
- Transdermal patches
- Vaginal ring

851. C. Perform a transvaginal ultrasound scan

852. B. Irving method

Irving method is a Sterilization technique used during minilaparotomy, not laparoscopy.

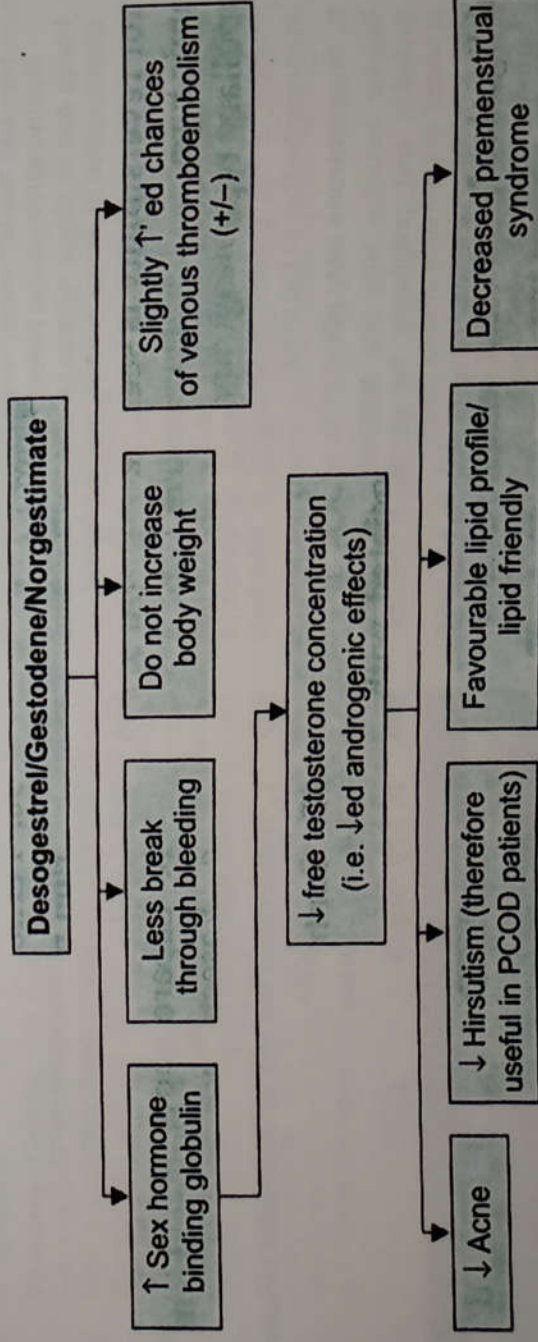
853. B. 10-15 mm Hg

During laparoscopy, pneumoperitoneum is created with CO₂ or nitrous oxide. CO₂ is preferred because N₂O can cause explosion in presence of volatile anesthetic drugs. About 2 litres of gas is introduced at 10 mmHg. The intraabdominal pressure during any laparoscopic surgery should be 10-15 mmHg. This eliminates the risk of hypercarbia or decreased venous return to heart.

854. A. Leads to immediate sterility

- Vasectomy consists of dividing and excising a part of vas deferens (with spermatic cord).
- It leads to permanently ending fertility of men.
- Failure rate 0.15%.
- The sterility does not occur immediately after

857. A. Are more lipid friendly



vasectomy. Sperms remain in semen for 15-20 ejaculations which is approximately 3-4 months, during which time an additional contraceptive method (condom by male or DMPA by wife should be used).

855. A. Is performed with absorbable suture material

Pomeroy method: It is a method for performing abdominal sterilization in females. A loop is formed 2 cm lateral to the uterine fundus. Avoiding the blood vessels, a round-bodied needle with 0 chromic catgut is passed through the mesosalpinx. The base of the loop is tied leaving about 2 cm of loop above the tie. Then about 1.5 cm of the loop is removed. The stumps are carefully inspected to ensure haemostasis. The rationale of the procedure is that since catgut suture is used, there will be prompt absorption of the ligature and subsequent separation of the cut ends. This will reduce the chance of failure. Hence, permanent suture material should not be used.

856. B. 3 months

Vasectomy consists of dividing the vas deferens and disrupting the passage of sperms. It is done through a small incision in the scrotum, under local anaesthesia.

- The sterility is not immediate. The sperms are stored in the reproductive tract for up to 3 months. The couple must therefore abstain from intercourse during this period or use other methods of contraception.
- Approximately, 20 ejaculates clear the semen of all sperms.
- Two semen analysis reports must confirm the absence of sperms before the man can be declared sterile.